GAS JOURNAL

Vol. 257 **March 30, 1949** **No. 4478**

PRESENT PROBLEMS

MAY 1 will not see the solution of problems which confront the gas industry, but we hope that after the industry has passed to State control more attention will be focussed on these problems and greater effort on a wider basis made to effect solutions. Many questions await answer on a national level. Some of them were touched upon in the address which Mr. D. D. Melvin, Enginer and Manager to the Edinburgh Gas Department, gave on Thursday last as President of the North British Association of Gas Managers. Under the new régime Mr. Melvin will be a full-time member of the Scottish Gas Board. Our pages today are largely devoted to our report of the proceedings of the Association at their last meeting before the inevitable change in ownership of the industry. The President's closely-knit address is published in full, and we are relieved that Mr. Melvin thought fit to embrace topics of wider significance than the growth and progress of the Edinburgh undertaking itself. This is a welcome sign. The address shows an appreciation of the present need for tackling in a determined way such matters as recruitment into the industry of men likely to advance its service to the community in the future, the question whether or not the use of smokeless solid fuel in the homes of the country is to be an important factor in long-term gas industry policy, the definition of the relative status of the gas engineer (manufacture) and the gas engineer (distribution) within the changed conditions after May 1, and, particularly, how to counteract apathy which is symptomatic among the ranks not just of the gas industry, but of industry in general.

Mr. Melvin's address, whether or not the author intended this or not, is pointer to many weaknesses within the gas industry as it approaches nationalisation. The possibilities before the industry are understood by those whose lives have been given up to it. There is room for a much wider realisation of this fact by those interested in the industry but not part of its working personnel. At the North British meeting the Parliamentary Secretary to the Ministry of Fuel and Power expressed the belief of the Ministry in the future of the industry. 'I want to see,' he said, 'coming into the industry young men with the spirit of adventure, enterprise, and initiative which characterises those who have built this industry up to the proud and important position that it occupies today. Equality of opportunity for the man with ability to get to the top on the basis of his qualification alone should, and I believe will, be the theme. There will be plenty of scope for first-class men in this first-class industry.' Those are brave words. They place upon the Ministry some responsibility to show unambiguously that the nationalised gas industry is attractive to talent—and hard work. Mr. Melvin was right when he stressed in his address the place of hard work in building and sustaining in good condition the backbone of the industry, even if this hard work does not bear any of the well-known labels of educational veneer.

A problem affecting the Scottish gas industry is the future of the two professional bodies—the Waverley and the North British—under nationalisation. The history of the Waverley is one of stubborn pride. It took more than a decade of deliberation before the Waverley saw fit to ask for affiliation with the Institution of Gas Engineers. For long, amid a strong current of opinion favouring unity and co-ordination, it stood firm on its island of isolation founded in 1861. It was not till 1943, in the throes of a second world war, that the Association saw fit to join up with the majority in matters concerning the professional and technical advancement of the gas industry. In his address Mr. Melvin argued that if in the future there is to be close liaison with the Institution there cannot be two sections of the Institution in Scotland. The suggestion has been made that the Waverley and the North British should fuse under a new identity. 'That is a sad thought,' he said, 'for the Waverley is the oldest gas association of all, and has dealt amicably with its younger brother for many years.' This question of fusion passes beyond a mere controversy of sentiment *versus* logic, and it is satisfactory that a joint body of the two Associations has already been set up to consider their fusion and modification to fit into a gas industry of somewhat changed shape after nationalisation, but with its purpose unchanged and abundantly clear.

AN ENCOURAGING POLICY

PREPARATIONS for the transition of the gas industry to nationalised ownership on May 1 are proceeding smoothly, and as one Area Board Chairman after another indicates the policy his Board intends to pursue, the overall picture of the industry after vesting date becomes clearer and the outlook from the point of view of the individual more encouraging. On Friday last we were privileged to be among the 100 guests of the Chairman of the West Riding Group of Gas Companies at a dinner in Leeds to bid good-bye to the past and good luck to the future. The speeches were impressive in the sense that those dealing with the past testified to the success of integration so far accomplished in the West Riding—and at York and Harrogate—and those about the future indicated that the two groups already operating would, with minor adjustments, continue under the Area Board, with the rest of the territory formed into four other groups. Elsewhere the Area Board Chairmen have spoken of 'divisions,' but the North East is already so familiar with 'groups' that it seems the word is to remain. Yorkshire is a county of very small company and a few very large municipal undertakings, and the Board is aiming at as large a measure of decentralisation as possible compatible with efficiency of operation Group managers will act largely as advisers and co-ordinators of the present separate undertakings, and the responsibilities of the engineers and managers of the individual undertakings will continue. Only gradually, as found necessary in the light of experience, will alterations be made to secure the advantages offered by nationalisation of the industry.

Dr. R. S. Edwards, Chairman of the North Eastern Board, is one of the five newcomers into the industry, and he has

already testified to his profound belief in the need for maintaining personal contact and for avoiding the feeling on the part of the public that they are being serviced by an impersonal body out of touch with their locals needs and requirements. He shares his colleagues' belief that within the territory is to be found a wealth of personnel capable of providing the drive and initiative to ensure that the Board succeeds in its duty of providing a first class service to consumers at low prices for both gas and coke. The names of the group managers have yet to be announced, but we shall be surprised if they are not all chosen from within the territory. So far only one appointment—that of Secretary and Legal Adviser—has been filled from outside. Equally important as cheap and efficient service are the maintenance and improvement of prospects for all who gain their livelihood in the service of the industry, and in Dr. Edwards's view the new organisation will enable a just recognition of services to be arrived at and give greater opportunity for technical training and education and for the selection of young men of real ability.

NATIONALISATION AND THE SALESMAN

WHAT will be the status of the gas salesman under nationalisation, and what scope will there be for his further education and his participation in a healthy business structure based on keen competition? These questions were in the minds of those who attended the long-awaited Conference of Gas Salesmen at Caxton Hall last Friday. To a considerable extent they were answered, but even when due allowance is made for discretion on the part of the platform speakers, we feel that the gathering of well over 300 might have been given a little more on which to ponder during their journeys home. Be that as it may, the very fact that the meeting was held was an indication of the Gas Council's interest in and regard for the Gas Salesmen's Circles, and both Col. H. C. Smith, who occupied the chair, and Mr. A. E. Sylvester, who delivered the principal address, stressed the opportunities ahead. The latter, calling for increased co-operation and teamwork, remarked upon the highly-decentralised nature of the new organisation and explained that the problem to be solved was how to carry that idea as far as it could effectively be carried while, at the same time, developing the strength that came from unity. The answer to this problem, he suggested, was that broad lines of policy would be decided at Area Board level and, in some case, at Gas Council level, where the Chairmen of the various Boards would have an opportunity of getting together and formulating national policy. The general policy thus established, it would be left to the man on the spot to carry it out. But that man must be fully trained and wholly capable of interpreting the general principles in the most effective manner. Here Mr. Sylvester pleaded for extended interest in educational facilities and stressed the need for the salesman to up-grade himself. Returning to his theme of teamwork, he said: 'There is no need for any divided loyalties; you can give of your best in your own particular district and at the same time respect the decisions or advice of your Area Board. You can also feel that you are part of a great national institution, and I suggest that you can find much strength and encouragement in this. Our resources will be great, and you will be strongly supported, especially in such matters as publicity and scientific research.' Even these encouraging words did not entirely stem the undercurrent of speculation, and several questions were asked concerning the possibility of improved selling conditions in the future. The questions were answered in general terms. The salesmen who, representing every one of the 17 Circles now in active operation, had travelled from all over Britain, departed from the meeting with the knowledge that the Gas Council had their interests at heart, that Gas Salesmen's Circles would continue to exist (in what geographical structure was not revealed), and that the life-line of opportunity would be strengthened, not broken. The meeting thoroughly justified the case made out for such a conference in these columns.

IN THE DISTRICTS

THE District Associations, and especially the older ones, are rightly proud of their traditions and view with a certain amount of misgiving the prospect of undergoing a change from 'District Associations' to 'district sections' of the Institution of Gas Engineers, but if the recent meeting of the Midland Association may be taken as typical there is very good reason to hope that whatever may be their new names these organisations will continue to thrive under the new régime which comes into being on May 1. There was quite an array of Area Board highlights—four Chairmen, three Deputy Chairmen, as well as full and part time members and some officials—and every one of those who spoke, either at the luncheon or in the course of the business meeting, added confirmation to the general belief that though administration may be regionalised, the engineer on the spot will still have the job of maintaining an adequate and efficient gas supply, and that spirit of co-operation which has made the gas industry what it is to-day will still prevail and will, indeed, have fuller scope under the new set up.

Mr. S. J. Sadler did well to devote his commendably brief Presidential Address to a general summary of the changes about to take effect and their possible reaction on the industry in his particular area. It was not the time, nor were the members and guests in the mood, for a more customary account of the President's own undertaking, though from the glimpses he gave us of the phenomenal developments during his 27½ years' service at Solihull this would have been a story of continuous expansion. Instead, he pin-pointed a few of the matters that must engage the attention of the Area Boards as soon as the take-over has been satisfactorily accomplished, and those members of Area Boards who had the opportunity of speaking after hearing what he had to say were certainly appreciative of the general inferences he had given. Possibly in future years, as Mr. Sadler remarked, the man who occupies the position which he filled last week will be 'the Chairman of the Midland District Section of the Institution of Gas Engineers.' Whatever the title may be, there will remain the need for such opportunitities for working gas engineers to get together, to talk over their problems, and to let those who supersede their present directors and committee members know what they think of the industry they serve so well. As the President of the Institution put it, the partnership between the Gas Council and the Area Boards on the one hand, and the central and provincial professional organisations on the other, may well contribute to the development of a greater gas industry.

TRIBUTE TO MR. HENRY WOODALL

THIRTY-FIVE years ago it was announced at the annual meeting of the Institution of Gas Engineers at Liverpool that Sir Corbet Woodall was desirous of endowing a Scholarship in Gas Engineering to commemorate the celebration of the Institution's Jubilee in 1913. The Council, in gratefully accepting the gift on behalf of the Institution, obtained the consent of the donor to name it 'The Corbet Woodall Scholarship.' The Scholarship was intended to enable a student to take a course of study in gas engineering at Leeds University in preparation for a responsible position as a gas engineer. Many of the offices in the gas industry formerly filled by Sir Corbet were in due time taken over by his son, Mr. Henry Woodall, who, like Sir Corbet, always took a keen and active interest in the subject of education. In paying tribute to him at the annual meeting

of the Tottenham and District Gas Company last week, Colonel H. C. Smith announced that the gas companies with which Mr. Woodall had been most closely associated as Chairman or Deputy Chairman had decided to commemorate his services to the industry and his interest in the training of young gas engineers by increasing the endowment of the Corbet Woodall Scholarship and, with the approval of the family, by changing the name of the Scholarship to 'The Corbet and Henry Woodall Scholarship.' No more fitting tribute to the work of Henry Woodall could have been paid.

A MESSAGE FROM U.S.A.

We have received the following encouraging message from America, the note being inspired by the first editorial in the first issue of the *Journal* this year (Jan. 5):—

On this side of the Atlantic, although we talk obsolescence continually and make a fetish of modernisation, mass production has big maws and we have at heart an awed admiration for time-tested merit. As a young nation, still beset by growing pains in many respects we are long in resourcefulness and industrial accomplishment, but short in tradition. I notice, however, that manufacturers are more and more featuring 'since 1890,' or whatever the date may be, in their advertising. The editorial in the *Gas Journal*, commemorating its beginning its second century under the same family management, was read with much interest here. The founding Editor faced discouragements—moaners and groaners are apparently new in the gas industry—but, undeterred, carried on to start a high standard of industrial journalism that has served the gas industry at home and abroad constructively and meritoriously. The first Editor had the right idea: To deserve success by earning it. Technically, we Americans are indebted to the British gas industry, and thoroughly appreciate the valuable help always available in the pages of the *Gas Journal*.

Personal

Retirement of Mr. G. P. Mitchell

Mr. GEORGE P. MITCHELL, Managing Director and Chief Engineer of the Worcester New Gas Light Company, is retiring at the end of this month after 40 years of service with the industry. Mr. Mitchell was educated at George Watson's College and Heriot Watt College, Edinburgh, and trained as a mechanical engineer. From 1904 to 1910 he served with Bertrams, Ltd., Edinburgh, and Barrowfields Ironworks, Ltd., Glasgow. In the latter year he was appointed Chief Assistant to the Engineer and Manager of the Gas and Electricity Departments at Alloa, and two years later took up a similar position with the Dundee Gas Department. He was later appointed Engineer and Manager of the Port Glasgow Gas Department and was in charge of the Falkirk Gas Department from 1918 to 1919. From then until 1933 he was Engineer and Manager at Blackburn before his appointment as Engineer and General Manager with his present Company. During his 16 years at Worcester he has completely reorganised the gasworks and installed modern plant which has almost trebled the output of gas. He became Managing Director and Chief Engineer of the Company in 1938. The name of Mitchell is well known in the gas industry; Mr. Mitchell's father, the late Mr. Robert Mitchell, was Engineer and Manager of the Edinburgh Commissioners, and his brother, the late Mr. James Mitchell, was Engineer and General Manager of the Leicester Corporation Gas Department.

Mr. Mitchell is a member of the Institution of Civil Engineers and of the Institution of Mechanical Engineers, and a member and Council member of the Institution of Gas Engineers. He is a past President of the Midland Association of Gas Engineers and Managers, and of the Waverley Association of Gas Managers, and until recently was Chairman of the Bristol and District Tar Board. He has always taken a keen interest in the welfare of his employees and introduced a social club for the gasworks employees at Worcester. The plan of the new works at Worcester includes tennis courts, bowling greens, cricket pitches and football fields—amenities which he established at Blackburn before his appointment at Worcester. He is known to industrialists and employees alike as a fair, straightforward and practical engineer. Until July, 1948, he was a member of the Finance Committee of the Worcester Royal Infirmary Management Board, and is a Committee member of the Worcester Industrialists' Association. But for his retirement Mr. Mitchell would have continued his service in the gas industry as a Divisional Manager for one of the divisions of the West Midlands Gas Boards. He will remain at Worcester and continue with other engineering interests with which he is connected.

Mr. LESLIE HARDERN, Public Relations Officer to the Gas Light and Coke Company, has been appointed a member of the Executive Committee of the Council for Visual Education.

* * *

Mr. ARTHUR J. DORAN, Chief Chemist to the Edinburgh Corporation Gas Department, retired for health reasons on March 15, after 40 years' service. Mr. Doran took active interest in all Junior Gas Association and welfare matters and was a past President of the Scottish (Eastern) Junior Gas Association, the Edinburgh Corporation Gas Department Welfare Section, and the Granton Gasworks Bowling and Football Clubs. He continues as Hon. Secretary and Treasurer of the Bowling Club. At a ceremony presided over by Mr. D. Beavis, Deputy Engineer and Manager of the Department, Mr. Doran was presented by his colleagues with a radio record player and records, as a token of the high esteem in which he had always been held.

* * *

Mr. H. M. LAWRENCE, Transport Manager of the Gas Light and Coke Company, has been appointed assistant General Manager of the Portsmouth and Gosport Gas Company. On vesting date Mr. Lawrence will become General Manager of the area covered by the Portsmouth and Gosport, Bognor, Petersfield and Selsey, and Titchfield undertakings which form part of the Eastern Division of the Southern Gas Board. He obtained an Honours Degree in Mechanical Sciences, and engineered in India and the Argentine before joining the Gas Light and Coke Company in 1925 as an Assistant Engineer at Beckton. In 1928 he was Senior Assistant Engineer (Carbonisation) and in 1930 visited Germany to study the erection and operation of coke oven plants. A year later he was engaged on the erection of the coke oven plant at Beckton. In 1933 Mr. Lawrence was appointed Assistant Coke Manager and in 1934 Transport Manager.

* * *

A short time ago the Greenock Corporation appointed a special sub-committee 'to investigate and report on the painter-work contract carried out at Inchgreen Gasworks, the service department, and the Gas Engineer's house, and also with regard to Account No. 51 of the Gas Department relating to gas fires, cookers, and other appliances.' The sub-committee reported to the Corporation at its meeting this month, expressing the view that Mr. R. D. KEILLOR, as Engineer and Manager 'had committed grave errors of judgment,' and recommending that his appointment to the Corporation be terminated. At the meeting Provost Morris moved that the recommendation be taken back and that less drastic action be considered. The amendment was defeated and the motion for dismissal carried by 15 votes to eight. Judging from the accounts of the matter at our disposal the action taken appears to us harsh and drastic, and it is, of course, with regret that we have to record the decision. A past President of the North British Association of Gas Managers, Mr. Keillor, who is 44 years of age, has been with the Greenock Gas Department for 27 years, having succeeded his father as Engineer and Manager 17 years ago.

Obituary

The death occurred, suddenly, on Mar. 25, of Mr. EDWARD PHILIP PAXMAN, M.A., J.P. He was Managing Director of Davey, Paxman and Co., Ltd., Director of Ruston and Hornsby, Ltd., and present Master of the Worshipful Company of Farriers. He was 47.

* * *

The death occurred suddenly in his office at Humphreys & Glasgow Ltd., on Mar. 23 of Mr. J. H. SMITH. Mr. Smith held the position of Senior Operating Engineer in which capacity he was responsible for the operation of many of the largest installations of water gas plant in this country and abroad. His great knowledge and experience, as well as his kindly nature were greatly valued by all his colleagues and friends.

* * *

Mr. J. H. TROUGHTON, Chairman of the Newmarket Gas Company, died on Mar. 22 at the age of 85. His devotion and service to the Company over a period of 67 years can rarely have been surpassed in the history of the industry. Mr. Troughton entered the Victoria (Newmarket) Gaslight Company, as it was then called, as a pupil of his uncle, the late Mr. Thomas Wilkinson, Manager and Secretary of the Company, and became his Assistant in 1882. He was appointed Manager and Secretary in 1890 on the resignation of Mr. Wilkinson, and continued in this capacity for 45 years. In 1930 he joined the Board of Directors and was immediately elected Chairman. Mr. Troughton was a former Council member of the Gas Institute, now the Institution of Gas Engineers, and a past President of the Eastern Counties Association, now the Eastern Association of Gas Engineers and Managers.

* * *

Colonel WHISTON ALFRED BRISTOW, Chairman and Managing Director of Coalite and Chemical Products, Ltd., died in London

on Mar. 24 at the age of 70. He was a pioneer in aviation, low temperature carbonisation and the extraction of oils and chemicals from coal. He was granted a commission in 1914 in the Royal Naval Air Service and was one the first naval officers to fly; he later transferred to the R.F.C. In 1918 he became the Chief Engineer in the Field for both the Army and the Navy, and collaborated in America on the design and manufacture of the Liberty engine. He went to Washington, and was appointed to a committee of four to draw up plans for the equipment of the new American Air Force. He also attended the Peace Conference in 1919 as one of the technical advisers to the British Delegation. In England, at first the Handley-Page Airline, then the Instone Airline, were placed under the direction of Colonel Bristow, who was responsible for the entire safety of machines, personnel and passengers. He was one of the official handicappers of the first King's Cup Air Race, being a member of the Racing Committee of the Royal Aero Club and Chairman of the Schneider Cup Committee, and founded the first firm of Aeronautical Consulting Engineers in England. He became interested in low temperature carbonisation in 1927 at the suggestion of the late Sir Samuel Instone. With his great technical ability, he gathered around him a team of experts, and in less than ten years established a highly successful and profitable industry of vital importance to the nation. His work in oil distillation and the production of smokeless fuel has made history. He was a member of the Institution of Mechanical Engineers, and of the Institution of Electrical Engineers, and a Fellow of the Royal Aeronautical Society, and of the Institute of Fuel. He was a past President of the Association of Tar Distillers, a member of Council of the Coal Utilisation Joint Council (formerly chairman of the Design Committee and member of the Fuel Storage Committee) of various committees of the Combustion Engineering Association, and of the Administrative Committee of the National Union of Manufacturers. He was a past-President of the Incorporated Society of British Advertisers, and a prominent supporter of the Coal Trades Benevolent Association.

Appointments

Mr. C. M. PLOWMAN, Secretary to the Federation of Gas Employers, has been appointed Secretary to the Industrial Relations Committee of the Gas Council.

Eastern Gas Board

The Eastern Gas Board announces the following Divisional appointments:

Tottenham Division.—Mr. W. HAWKYARD, M.INST.GAS E., M.I.CHEM.E. (Chief Engineer, Tottenham and District Gas Company), to be Divisional General Manager. Mr. F. T. BROOKES (General Manager and Secretary, British Gas Light Company) to be Assistant Divisional General Manager and Secretary. Mr. P. J. KEDGE, A.S.A.A. (Deputy Secretary and Accountant, Tottenham and District Gas Company), to be Divisional Chief Accountant.

Cambridge Division.—Mr. J. HUNTER RIOCH, M.I.MECH.E., M.INST.GAS E., F.INST.F. (Managing Director, Engineer and Secretary, Cambridge University and Town Gas Light Company), to be Divisional General Manager.

Ipswich Division.—Mr. W. J. COLLINS GARRARD, A.M.INST.C.E. (Engineer and Manager, Ipswich Gas Light Company), to be Divisional General Manager.

Norwich Division.—Mr. R. A. WESTON, M.INST.GAS E. (Engineer and Manager, British Gas Light Company, Ltd., Norwich), to be Divisional General Manager.

North Eastern Gas Board

Mr. NORMAN HUDSON, M.INST.GAS E., M.INST.F., Managing Director and Secretary of the Mirfield Gas Company, has been appointed Chief Commercial Officer to the North Eastern Gas Board. Mr. Hudson is a Yorkshireman. Educated at the Normanton Grammar School, he commenced his career with Tully Gas Plants Ltd., being appointed Assistant Engineer and Manager to the Normanton Gas Company in 1923 and in 1927 he become Engineer, Manager, and Secretary to the Mirfield Gas Company. Mr. Hudson has been closely associated with the work of the national and regional organisations of the gas industry, and is a member of the Gas Research Board and Chairman of that Board's Finance Committee. He is a past President of the Manchester District Association of Gas Engineers, has served on the Council of the Institution of Gas Engineers and as Examiner and Assessor with the Institution of Gas Engineers for Gas Engineering Manufacture. He was Chairman of the Gas Engineering Advisory Board in No. 2 Region and is at present Vice-Chairman of the Yorkshire Gas Coke Association and Vice-Chairman of the West Riding District of the Federation of Gas Employers.

Northern Gas Board

The area of the Northern Gas Board has been resolved into 10 divisions, each of which will be controlled by a Divisional General Manager responsible to the Board through a Management Committee. The names of the Divisional General Managers and the divisions to which they had been appointed were published in the *Journal* last week. The Chairman and Deputy Chairman of the Board are ex-officio members of each Divisional Management Committee, the membership being completed by one other member (in the case of the Newcastle Division two other members) of the Board, the Divisional General Manager, and one neighbouring Divisional General Manager. Two exceptions to this arrangement are Darlington, where Mr. A. S. Middleton (Secretary, Durham Gas Company) is also a member, and Penrith, where Mr. T. H. Large (Engineer and Manager, Maryport) is a member, in addition to the two Divisional General Managers. The Divisions and the undertakings they comprise are as follows (the divisional head office in each case being the present head office of the undertaking from which the division takes its name):

Blyth, with Alnwick, Amble, Berwick Newbiggin, Rothbury, Wooler, and Morpeth Ashington areas of Newcastle Company.

Newcastle.—The present Newcastle Company, less Morpeth, Ashington, Chester-le-Street, Prudhoe.

Hexham, with Corbridge, Haltwhistle, Alston (also Prudhoe ex Newcastle).

Sunderland, with Annfield Plain, Durham, Houghton-le-Spring, Lanchester, Shotley Bridge, Stanley (also Chester-le-Street ex Newcastle).

Darlington.—Northern Section: Bishop Auckland, Brancepeth, Crook, Ferryhill, Spennymoor, Stanhope, Tudhoe and Sunderland Bridge. Central Section: Barnard Castle, Gainford. Southern Section: Bedale, Leyburn, Masham, Northallerton, Richmond.

Stockton, with Hartlepool.

Middlesbrough, with Brotton, Cleveland, Guisborough, Redcar, South Bank.

Carlisle, with Wigton, Brampton.

Workington, with Aspatria, Ennerdale, Cockermouth, Maryport, Wigton R.D.C., Whitehaven, Seascale.

Penrith, with Appleby, Keswick, Kirkby Stephen.

Scottish Gas Board

The Scottish Gas Board announce that they will make the following appointments, as from May 1, of Divisional Controllers:—

Aberdeen and the North: Mr. H. S. MILNE.
Edinburgh and the South East: Mr. DOUGLAS J. COLVIN.
Glasgow and District: Mr. D. F. YOUNG.

The remaining Divisions are sub-divided into smaller groups, as follows:—There will be three groups in the Central Division, with headquarters at Dundee, Perth, and Dunfermline. The Group Managers appointed are Messrs. W. S. JOHNSTON, W. N. BAIRD, and D. L. DICKSON.

There will be four groups in the South Western Division, with headquarters at Uddingston, Paisley, Greenock, and Kilmarnock. The Group Managers appointed are Messrs. F. R. MITCHELL, JAMES M. DOW, A. JAMIESON, and ROBERT FIFE.

Mr. DAVID BEAVIS has been appointed as Manager for Edinburgh, and Mr. E. G. SMITH as Deputy Divisional Controller for Glasgow.

Wales Gas Board

Mr. W. R. BRANSON has been appointed Engineer to the Wales Gas Board. Mr. Branson graduated B.SC. (Leeds University) with First Class Honours in Gas Engineering and Fuel Technology. He was a pupil engineer with the Hartlepool Gas and Water Company and then Assistant Engineer, Gas Light and Coke Company. From 1937 to 1945 he was Assistant, and later Deputy Engineer of the Cardiff Gas Light and Coke Company. Mr. Branson is at present Assistant Director (Gas) Public Utilities Branch, Control Commission for Germany.

Mr. TREVOR A. MORGAN, C.A., has been appointed Chief Accountant. Mr. Morgan joined the Cardiff Gas Light and Coke Company as internal auditor, and subsequently became Secretary of the Company which is the position he now holds. In addition he is Honorary Joint Secretary of the South Wales Regional Joint Council for Gas Staffs.

Mr. W. H. TARN, M.INST.GAS E., A.M.INST.MECH.E., has been appointed Industrial Gas Development Engineer. After completing apprenticeship and training with the Parsons Marine Steam Turbine Co., Mr. Tarn joined the Industrial Department of the Newcastle-upon-Tyne and Gateshead Gas Company. Later he transferred to the Liverpool Gas Company and became Assistant to Mr. H. P. Lupton. In 1944, he joined the staff of the Severn Valley Gas Corporation, and Gas Consolidation, Ltd., eventually becoming Chief Industrial Gas Engineer to those organisations.

Changes of Address

The offices of the North Eastern Gas Board have now been transferred from the temporary address at Room 301, Century House, South Parade, Leeds, to a permanent address at Bridge Street, Leeds, 2 (telephone: Leeds 32571/4).

The headquarters of the Eastern Gas Board are now at 2, The Abbey Garden, Westminster, S.W.1.

PAST AND FUTURE GROUPING IN THE NORTH EAST

AREA BOARD POLICY OUTLINED

A BROAD outline of the future structure of the gas industry in the area of the North Eastern Gas Board was given by Dr. Roger S. Edwards, Chairman of the Board, in Leeds on Mar. 25. Dr. Edwards was speaking at a dinner at the Hotel Metropole given by Mr. A. E. Greaves, Chairman of the Joint Board of Directors of the West Riding Croup of Gas Companies, to about 100 officers of the undertakings in the group to bid 'Good-bye to the past and Good luck to the future.' Mr. Greaves was in the chair, and among other principal guests, in addition to Dr. Edwards, were Colonel W. M. Carr, Chairman of the United Kingdom Gas Corporation (the parent Company of the West Riding Group) and Chairman of the North Western Gas Board, Mr. G. E. Currier, Deputy Chairman of the North Eastern Board, Mr. A. McDonald, full time member of the Board, and Mr. H. B. Taylor, General Manager of the West Riding Group.

The Rev. **Canon Noel T. Hopkins,** Provost of Wakefield Cathedral and Vicar of Wakefield, proposed the toast of 'The Pioneers of the Gas Industry' and recalled the names of John Clayton, at one time Rector of Crofton, near Wakefield, and later Dean of Kildare, William Murdoch, Samuel Clegg, and Samuel Sharp, an early predecessor of his own as Vicar of Wakefield, who, struck by the dismal conditions of the streets, set about founding the Wakefield Gaslight Company 115 years ago and thus set on foot 'a splendid venture of private enterprise.' He still regarded gas as an illuminant despite its vast development in the industrial and heating fields and recalling a recent visit to London expressed his pleasure at having found the vicinity of St. Paul's Cathedral still lit by gas. A more modern pioneer of the gas industry was Colonel Carr, who held a high and dignified and important office as Chairman of the United Kingdom Gas Corporation, who controlled the various companies and organisations which he had been able to gather into one whole, and had been largely responsible for the gas grid. The present occasion marked certain sadness for many because the industry, built up by private enterprise, was about to pass into other hands, but he hoped the spirit of enterprise, initiative, drive, responsibility, and obligation would not be lacking, but would be carried from the past into the future.

Modern Pioneers

Colonel **W. M. Carr,** O.B.E., T.D., M.INST.GAS E., responding, said he felt honoured to have been included among the pioneers of the industry which most of them had been privileged to serve for the greater part of their lives. This ancient industry was, in fact, younger today than ever it was, and they all had the spirit of pioneering. In declaring that they all felt responsible for service he had especially in mind the Chairman, their host, who was a very good pioneer. One of the people who provided some of the earliest subscription for the formation of the Wakefield Company was one of Mr. Greaves's forbears, and ever since its inception his family had been connected with all its concerns; he knew of no-one with a greater spirit of service than their present Chairman. Notwithstanding his years he had consistently shown that spirit of enterprise, drive, responsibility, and initiative referred to by the proposer, and they were proud of the achievements of the Company and the West Riding Group under his leadership. He and all who had been associated with him had striven throughout to see how they could provide a cheap and better service. He appreciated the importance of the development in the West Yorkshire Gas Distribution Company and the fact that by integration they could possibly provide a cheap and better service.

They had succeeded well in the West Riding Group of Gas Companies. The fact that the average price received for gas today was a penny per therm less than the average price received before the companies were taken over was, he thought, the best testimonial they could have, and it substantiated the claim that they had succeeded. He did not believe that throughout the length and breadth of the country there was an undertaking that could make a similar claim. They had been progressive. They had done their best to expand, though in late years they had done so under the most extreme difficulties. They had only completed the West Yorkshire Grid at the time the war broke out; in fact, war had broken out when the first main unit of supply came into operation, and within a month the supply failed and had to be suspended for two years, which landed them into untold difficulties. Nevertheless, the potentialities were there, and there were opportunities for large business which they had not yet been able to fulfil. There was an enormous demand for gas in the area of the West Riding Group which they had been unable to meet. To their distress they had had to refuse supplies to new housing estates and to many industries, but through providing a cheap and efficient service their business had grown and expanded.

Four Years' Growth

They supplied 11,877,000 therms in 1944, and by 1948 the total had reached 16,910,000 therms, an increase of 42.38%. In the meantime they had had to spend money on expanding their plant in order to increase their supplies. Despite such expansion their capital had been increased by only 11%, so there was an incidence of reduced cost which they were able to pass on to their consumers. During that period also the cost of coal increased by no less than 173% and the cost of wages increased by 132%, while their consumers had only increased from 98,000 to 102,000, although had they had the supplies available they would have increased by very much more. They were only at the beginning of those developments. There had been established a larger body—the North Eastern Gas Board—to whom they were about to hand over their responsibility. To them would go the obligation of carrying on that development—they were to be the new pioneers, new pioneers in the service to the consumer. The Chairman of the North Eastern Board was a newcomer to the gas industry, but he was a virile, active personality. As an old member of the industry he ventured to suggest to Dr. Edwards that cheap and better service should be the Board's first consideration. If they remembered that the consumer came first and that it was their privilege and honour to serve the consumer they could not fail in their task. But there were dangers. It was possible to be too large, just as it was possible to be too small. It was the easiest thing in the world, as he had discovered in the great Corporation which he was privileged to lead, to set up organisations which were not justified and which meant greater expense to the consumer. That was a danger against which they must all guard. It involved considerable decentralisation; and while they had grouped together a number of companies they had had a great advantage in the sense that the restrictions which had been imposed upon them had necessitated the production of separate accounts, and that fact had been invaluable to them in controlling those undertakings. It had helped them to see where they were going, and in all this planning they must all make up their minds where they were going before they started. A great responsibility was placed on them all to find out what things were going to cost.

A Legacy to the New Owners

As the head of the parent Company he took the opportunity of expressing his grateful thanks to Mr. Greaves and to every Director, officer, and employee in the West Riding Group of Gas Companies for the great effort which had always been made since he had been privileged to take an active part in the gas industry in Yorkshire some 15 years ago. They had been well served by all. They had found great enthusiasm and a great belief in what they were doing—and that was the essence of good service. They had felt proud to be servants of the public, and he hoped they would never lose that pride. He felt sure they would carry into the new Board that pride and that effort which they had maintained since he had been privileged to be associated with them. He hoped that those who were going to take over the direction of the industry would never, in the dispositions which they would have to make in the future, lose sight of the efforts which they had made in the past, but that they would allow those efforts to spur them on to greater efforts in the future. So far as their consumers were concerned, both industrial and domestic, he begged the new Board to fulfil the promises which the present leaders had made but which, by reason of circumstances beyond their control, they had been unable to fulfil.

They had done their utmost to provide gas for the developments that were taking place in housing, and for the great developments in industry. Unfortunately owing to the war and the delay in building they had not been able to get on as rapidly as they had hoped, but the great new plant at Tingley was being built. They were making more or less temporary arrangements for the supply of water gas from Glasshoughton in the new development started there. In conclusion he hoped that the new Board would not make the mistake of diverting the gas, as it became available, to those parts of the area which had not been so far-seeing, but that they would supply it to those to whom it had been promised, and to whom they were under a great obligation.

Mr. E. C. Stonehouse, J.P., a leading Wakefield industrialist, proposed the toast of 'The Gas Industry of the Future.' He said the present occasion was the culmination of generations of fine service, and they were looking quite undismayed towards the

future. As one not intimately concerned with the gas industry he was full of admiration for the way in which they were facing the future. Although the industry was passing from private to public ownership he saw no reason why there should not still be gentlemen going round their works who could be regarded by those who worked there as the source of some of their troubles and a good many of their satisfactions. They could never manage workmen by means of regulations made 100 or more miles away; it was for the man on the spot to manage them, and he could not do so unless he was backed up and taken care of by his superiors. The Wakefield undertaking started business in 1822, at the height of unrestricted private enterprise. It was started by public-spirited men subscribing money, not for shares that would yield handsome dividends, but for public service. He was sure that they had in Dr. Edwards a man who would have the interests of their great enterprise at heart and would give encouragement to their work.

Area Board's Task

Dr. **Roger S. Edwards,** Chairman of the North Eastern Gas Board, replied to the toast and first paid a tribute to Mr. Greaves, pointing out that his action in giving that dinner at his own expense to assist the smooth transition from the present ownership of the gas industry to nationalised ownership was in accord with the long-standing tradition of the industry as a public service. That same spirit was going to be the guiding policy of the North Eastern Gas Board. It had been emphasised that the transition which the industry was about to undergo was a step in a natural process of evolution. At the luncheon in connection with the Autumn Research Meeting of the Institution of Gas Engineers last year Sir John Anderson indicated that quite apart from any political considerations in his opinion the new set-up of the gas industry was a step in the natural evolution of one of the first nation-wide public services of the country. He believed they would all echo those sentiments and set themselves to the task in hand with the sole object of retaining all that was good of the past and achieving in the course of time the full benefit of the new possibilities opened up by the Gas Act of 1948.

He wanted to take the opportunity of giving some first indications of the policy which the North Eastern Gas Board proposed to follow. In the first place he pointed out that the territory of the Board was one which, apart from the region covered by the West Riding Group of Gas Companies, and that of the York-Harrogate Group of Gas Companies and the other subsidiary companies of the United Kingdom Gas Corporation, was largely the province of gas undertakings organised by local authorities. Secondly the territory was a mixture of both very small and very large undertakings. When he mentioned that the gross income of the undertakings ranged from just over £2,000 to well over £1½ mill. it would be realised how great was the variation in conditions operating in the different parts of the Board's territory. The Board felt that, catering as they did for over 800,000 consumers, the great majority of whom were individual householders, it was essential to maintain the greatest possible measure of personal contact, and that at no time should the local touch be lost and the public come to feel that they were serviced by an impersonal body out of touch with their local needs and requirements. To that end they hoped to avoid building up a massive centralised organisation, but to decentralise as far as was possible compatible with efficiency of operation.

Six Groups

The headquarters of the Board had been established in Leeds, and it was proposed that the function of the headquarters staff should be to act as a central servicing and development organisation for the benefit of the undertakings rather than a centre through which everything in connection with the gas industry must pass. They proposed to organise the territory into six groups, and with very minor modifications two of those groups would be those already integrated by the United Kingdom Gas Corporation, namely, the West Riding Group of Gas Companies, and the York-Harrogate Group, whose General Manager, Mr. McDonald, he was very pleased to say was going to be one of his full-time colleagues on the Board. He felt certain this would be a matter of real gratification to all present, particularly in view of his previous association with the West Riding Group. They proposed to base the other groups on the big towns in their territory, namely, Leeds, Bradford, Hull, and the Huddersfield-Halifax area.

The Board proposed to appoint in the near future Group Managers to function as from May 1 in each of those areas, and it was the intention of the Board to give the Group Managers the maximum of responsibility for the operation of their districts. They felt it was desirable to maintain as far as possible the responsibilities of the present Engineers and Managers of the individual undertakings, and their purpose was that for some considerable time the Group Managers should act largely as advisers and co-ordinators of the present separate undertakings. Only gradually, as found necessary in the light of experience, would alterations be made to secure the advantages offered by nationalisation of the industry.

The Group of Companies represented at that gathering, and the associated York-Harrogate Group, fell into a somewhat different category as they had largely been integrated already under the direction of Colonel Carr, who was especially welcome on that occasion. It would appear that the work in those areas, so ably developed under Colonel Carr's leadership, had provided the Board with an organisation which would need little, if any, alteration when the Board takes over on vesting day. He was extremely pleased to have Colonel Carr as one of his colleagues on the Gas Council and to know that the benefit of his great services to the industry had not been lost but were going to continue to be available as the Chairman of the largest of all the Area Boards. He also wished to thank Colonel Carr for the very helpful and friendly advice he had already given to him since his appointment as Chairman of the North Eastern Board.

Personnel

Turning from the subject of methods of operation to the question of personnel, Dr. Edwards said the Board believed that within its territory was to be found a wealth of personnel capable of providing the drive and initiative to ensure that the Board was successful in its duties of providing a first-class service to consumers at low prices both for gas and coke. For that reason the Board had endeavoured, and was still endeavouring, to make all appointments from within the existing personnel of the area, and so far they have made only one appointment from outside the territory, namely that of the Secretary and Legal Adviser to the Board. They felt that while the prime duty of the Board was to provide a cheap and efficient service to the consumer of the products of the gas industry it was of equal importance that this great scheme of integration should maintain and improve the prospects for all who gained their livelihood in the service of the industry.

He felt certain that that policy would meet with the approval of his hearers. While it had been possible for anyone of real capacity to make progress in the industry in the past, the very varied conditions which had existed in undertakings hitherto had not always been conducive to promotion. The new organisation of the industry in 12 Area Boards would do much to remove that deficiency. It should enable a just recognition of services to be arrived at and give greater opportunity for technical training and education and for the selection of the young man of real ability.

He (Dr. Edwards) was one of the five newcomers to the industry, introduced, he understood, with the object of giving the central body—the Gas Council—a wide range of experience and viewpoint in its consideration of national questions. Nevertheless, whether they were newcomers to the industry or, like the Chairman, had devoted a lifetime to the furtherance of the gas industry, they were all imbued with the one belief and one ideal. Their belief was that the carbonising of coal was the best practical application yet conceived by science to release the treasures of this country's greatest raw material, in the form most calculated to render the maximum of service to the community. Their ideal was to see the products of the industry fully applied both in their homes and at their work. The realisation of their ideal would see the disappearance of the smoke and grime which enveloped their cities—Leeds being a notable example—their labours would be lightened, and their island would become again the place of beauty it was before the industrial revolution. Our legislators in their wisdom had provided the industry with a new form of organisation within which to operate. It was up to them to take full advantage of the opportunity given to them to achieve their destiny. If they had both faith and courage, and he believed they had, then they would not fail.

Mr. **H. B. Taylor,** General Manager of the West Riding Group, proposed the toast of 'The Chairman' and paid a warm tribute to the leadership of Mr. Greaves in the difficult period through which the Group, in common with the rest of the industry, was passing.

The **Chairman,** in response, agreed that life had been strenuous in recent times, but they had achieved what had seemed impossible, and he was very grateful for the co-operation of everyone in the Group. He thanked Mr. J. E. Brooke, Secretary of the Group, for carrying out the arrangements for the dinner. He also expressed his gratitude to his fellow Directors, officers and staff and employees of the various companies for their universal courtesy, kindness and co-operation. Finally, he wished the gas industry the greatest possible success—a success which he felt was assured by a continuance of that friendliness and co-operation which had characterised the efforts of the Company and the Group over which he had had the honour of presiding.

Peterborough Gas Company's fitters, inspectors and maintenance staff were given recently a talk by Mr. J. M. Andrew (Technical Representative of Main Water Heaters, Ltd.). With the aid of slides and sectional models the features of the No. 15 multi-point storage heater, the G.L.C. Circulator and the New Junior bath water heater were explained in detail.

NORTH BRITISH ASSOCIATION OF GAS MANAGERS

SPRING MEETING AT EDINBURGH

THE Spring Meeting of the North British Association of Gas Managers was held on March 25, in the Music Hall, George Street, Edinburgh, the President of the Association, Mr. D. D. Melvin, M.INST.GAS E., Edinburgh, welcoming a large company. At the outset of the proceedings the **President** said they were honoured in having with them Sir Andrew Murray, the Lord Provost of Edinburgh. Throughout his municipal career Sir Andrew had established a reputation which had culminated in his preferment to the civic chair. He had always taken a keen interest in the operation and administration of the Edinburgh Gas Undertaking, of which the citizens were justly proud.

Extending a civic welcome, the **Lord Provost** said that when he expressed his pleasure at their visit to the royal and ancient city of Edinburgh he was speaking no empty words and extending no routine welcome. He was sincerely glad of their visit because he appreciated the value of the Association and its contribution to the development and the prosperity of Edinburgh. Edinburgh had had a Government for over 1,000 years and history had been made in their buildings and streets. As the city had grown so also had her citizens advanced in the crafts, in science and in education.

In Scotland, said the Lord Provost, the gas industry provided work for 12,500 persons directly and for many more in other industries served by gas. Gas made a contribution of importance to the prosperity of the community. The Association exercised a far-reaching influence in the promotion of the things which advanced the industry in all its facets and provided opportunities for gas engineers. The fact that they had a Benevolent Fund showed that they did not forget the human and personal side. He took pleasure in welcoming back home those prodigal sons of Scotland who had gone south either through materialistic or idealistic motives! During the 87 years of the Association's existence Managers of the Edinburgh undertaking had been honoured with the Presidency on seven occasions. They were pleased to know that their present Manager held that office and had maintained the traditions of his high civic office. On 27 occasions the Association's annual meeting had been held in Edinburgh and they were proud of the fact. He welcomed the members back and hoped that their deliberations would be successful.

Acknowledging the welcome, the **President** said that Edinburgh had always been a happy meeting place for the Association and they appreciated the help given to them by the Corporation.

The **President** made suitable reference to the loss by death of the following members: Ordinary, James C. Crawford, Stevenston; James J. Scott, Cowdenbeath. Extraordinary, James R. Thomson, Glasgow; Lewis Fletcher, Senr., Glasgow; and J. G. Galloway, Edinburgh. Members were upstanding in respect for their deceased colleagues.

Welcome to Visitors

The **President** said it was his privilege to welcome the Scottish Gas Board, represented by the Chairman, Sir Andrew Clow; the Deputy Chairman, Mr. D. D. Burns; and other members of the Board. As President of the North British Association he wished them well in their onerous task. As a member of the Board he could assure the technicians of their desire to see the industry in Scotland reach a new height of achievement. Mr. Melvin also extended a special welcome to Mr. George P. Mitchell, of Worcester, as a representative of 'exported Scots,' and as one who had maintained his regular attendance at their meetings. He also referred to the presence of Dr. W. T. K. Braunholtz, Secretary of the Institution of Gas Engineers, and to the fact that Mr. E. Crowther, the Institution President, would attend later.

Dr. **Braunholtz,** who expressed his thanks for the invitation to come north, made a brief appeal for the House Appeal Fund of the Institution. They were not looking for large cheques, but hoped that members would send in something, even five shillings, to show their interest and support.

Sir **Andrew Clow,** who was cordially received, said he valued the opportunity of meeting the members. The Association had done a great deal in past years to bring together those who over an immense area had been working for the industry. He hoped that that work would continue in the future as vigorously and with as great value as in the past. They would require even more in the future team spirit which the members exhibited. On the whole they were fortunate in having Scotland as a unit under the new system, but it was a unit which was going to give them all a few headaches. No English area under the Act was anything like the size of Scotland and he was not speaking merely in terms of geography. None of them had the number of Councils and companies responsible at present for gas production. It meant, therefore, that it would be both difficult and valuable for the Board to encourage the members of the industry. He did not know a great deal about the gas industry—nothing like what his colleagues knew. But he spoke for them and for himself when he said that in tackling the various problems before them they did not propose to regard themselves as an isolated company, but as part of a great fellowship. They would depend—as they could rely—on the co-operation, advice and help of the members of the industry. The future held out greater hope for that fellowship than the past. The industry meant a great deal to the people of Scotland and he hoped to see it advance from strength to strength. He would ask them to bear in mind the Board's dependence on their co-operation and wished them all success in the years that lay ahead.

Mr. **George P. Mitchell** (Worcester) said he had come to his 'greeting' meeting. In a few days he would complete 40 years in the industry. He had felt that instead of being on a Gas Board he should retire and make way for a younger man. He had been connected with the North British Association for many years. It was 52 years to a day since his father retired from the managership he held under the Edinburgh and Leith Gas Commissioners. It was 62 years since his father had been President of the Association. Neither of his sons reached that high office because they had both crossed the Border and never returned to Scotland. As a past President of the Midlands Association he brought them greetings from that body.

Messrs. A. McFadyen, Dumbarton; W. Kirk, Motherwell; and W. S. Johnston, Dundee; were nominated for the Council, the election to take place at the annual meeting.

The Presidential Address

Mr. **Melvin** then delivered his Presidential Address, as reported in pp. 694-705 of this issue.

Mr. **R. Sturrock,** Ardrossan, Senior Vice-President, in proposing a vote of thanks to the President, said it was fitting that the honour of proposing the vote of thanks to the President for the inspiring address he had delivered should fall to his lot. His friendship with Mr. Melvin went back over 30 years, when they became associated together in the Dalmarnock Works of the Glasgow Corporation Gas Department, and he could claim, therefore, to speak with more intimate knowledge of his career and accomplishments in the intervening years. It would be everyone's wish that he should express their heartiest congratulations to Mr. Melvin on his recent appointment as a full-time member of the Scottish Gas Board and assure him and the members of his Board that in the difficult and trying period that lay ahead of them in the work of organising and co-ordinating the Scottish gas industry under the national structure, they would have the united support and confidence of every member of the Association.

The address delivered that morning in its clarity and directness was typical of the author. He correctly referred to their meeting that day as a momentous one, being, as it was, the last they would have under their present administration. It was reassuring, however, to know that after 87 years of a useful and honourable existence, the Association will, under their new employers, continue to fulfil its useful function and obligations. Mr. Melvin had indicated that negotiations were taking place between the various District Associations with a view to these becoming District Branches of the Institution of Gas Engineers. Their Council would be engaged in these negotiations at an early date. The interests of every member would be safeguarded and the tradition and, if possible, the identity of the Association would be carried on. It was natural that many members at this time had experienced some degree of anxiety, wondering what the future would mean to them under Government control. The President's assurance that scope for initiative and enterprise would be recognised should remove those doubts and, he felt sure, would find a ready response from Scottish engineers.

Reference was made to the Fuel Expenditure Index figures returned by the various undertakings in the Scottish Region and a comparison was drawn between the larger and smaller concerns. While in agreement with the conclusions that could be deduced from those figures, he submitted that the differentiation might not be so pronounced as a more uniform calorific value of gas was instituted throughout the region. Certain anomalies that existed in the past might then become eradicated. One would expect a higher efficiency in the larger works but, in his opinion, if technical control could be introduced into many of the smaller units, a surprising increase in efficiency might be achieved. In the Scottish region the geographical position of many small undertakings did not permit of integration being introduced with a larger works, but it was not beyond the bounds of possibility for manufacturers of plant to improve their design of carbonising units to suit even

the smaller isolated works, of around 15 to 50 mill. cu.ft. annual capacity, particularly in regard to the amount of fuel consumed in the retort settings today. This was being successfully accomplished in respect of works above that size and if similar efficiency was achieved for works of more humble output considerable economy would be effected, thus reducing their cost into the holder. This was necessary for the survival of those small outposts which, in the past, had battled so courageously against high pressure electrical competition.

Mr. Melvin had compared the cost of new plant today with that of pre-war years. The reason for the increase was obvious, but when other factors were considered, *e.g.*, interest on capital borrowed, initial allowances in respect of taxation and valuation and increased efficiency obtained, the final result from the introduction of new plant might not, of necessity, involve increased charges. The suggestion the President made relative to unified charges over an area was very intriguing and one which was most controversial in character. Nevertheless, the terms contained in the Gas Act would remove the legal obstacles which in the past retarded the introduction of soundly constructed tariffs. With the development and transfer of industrial estates to rural areas, some distance removed from large industrial centres, the introduction of a unified charge would therefore be of great assistance to such combines.

Coal and Education

Reference was again made to the vexed problem of coal quality. A year ago it appeared that their grievances, if not altogether eliminated, would by now have shown substantial improvement. In recent months meetings between representatives of the National Coal Board and the Commercial Sections had taken place and it now appeared that some time must elapse before improved supplies of suitable gas coals would become available. It had been stated that the policy of the Coal Board was a long-term one and they could only express the hope that the term 'long' might prove shorter than even they anticipated. He felt sure that the statement made by Mr. Melvin relative to coke production and sales, together with the work achieved by the District Coke Associations was timely and would be endorsed by all concerned. His observations respecting recruitment and training of entrants to the gas industry would meet with universal approval. The progress made over the past 30 years in the Educational Scheme had been most marked. They, as an industry, were under a deep debt of gratitude to the Scottish Education Committee of the Institution of Gas Engineers for the work accomplished in the preparation of suitable courses of study and the granting of certificates to successful students. Today they were in the happy position of knowing that after several years' negotiations between the Educational Authorities, the Institution of Gas Engineers and the Institutions of Civil and Mechanical Engineers complete agreement had been reached, whereby students entering the gas industry would now follow a prescribed course, similar to other engineering students, for their National Certificate, and in their final year have an option of Endorsement subjects. If successful, this automatically gained for them corporate membership of the Institution of Gas Engineers. This achievement should remove much of the annoyance and irritation experienced by students in the past and would eliminate much criticism and misunderstanding.

The President was the seventh Edinburgh Engineer to adorn the Presidential Chair of the Association since its inception and many present could recall with pleasure the meetings held under his two immediate predecessors, the late Mr. H. H. Gracie and Mr. James Jamieson, who, during the anxious and dark years of 1940-45, provided them in Scotland with such inspiring leadership and whose services were fittingly recognised by the King.

Progress

Mr. **F. R. Mitchell,** Uddingston, Junior Vice-President, seconding the vote of thanks, said that the President was one they admired and respected for his steadfast attention to his duties. The address was a worthy addition to the many contributions already made by Mr. Melvin to the industry and the Association. He wished also to support Mr. Sturrock's expression of congratulations to Mr. Melvin on his appointment to the Scottish Gas Board, a premier position most worthily merited. The President rightly said that the year was a momentous one and of historic significance. In launching their ship under the new administration many channels had still to be charted but the Scottish Gas Board was assured of the support and earnest effort of every member of the Association. The team spirit and united support of the industry would ensure a safe and prosperous voyage.

While the address showed close investigation and research into subjects fundamental to every undertaking, Mr. Melvin was to be commended particularly on the subject matter of his address and the clear lead given to matters so close to their thoughts at present. Reference was made to the change in ownership of the gas undertakings, but the value of maintaining the interest of the appropriate authorities in the local undertakings should not be under-estimated. In dealing with nationalisation and its opportunities it was encouraging, and lent zest to the daily task, to observe the President's lead in which improvements in service could be made, but it was well to note the lines on which the personnel service of the industry was likely to be built. It might well follow as a natural sequence of the co-ordinated industry that greater use would be made of specialist, technical and administrative services.

Much attention had been given recently to the size of manufacturing centres likely to give highest efficiency in production and operation. Mr. Melvin indicated that works below 10,000 tons of coal per annum were, on the average, operating at reduced efficiency compared with the large units. Nevertheless, standing capital—represented in existing works of reasonable operating size—would undoubtedly continue for some time and future expansion for particular areas proceed at selected centres. Reference was made by the President to the dearth of technicians in the industry and by Mr. Sturrock that technical control introduced into many of the smaller units would result in an increase in efficiency. A solution to the former might be found in recruitment from fields not hitherto explored by the gas industry. The co-ordinated industry would make available technical services to all undertakings irrespective of size and individual resources. Mr. Melvin referred to the high cost of works plant and rightly declared that endeavours would require to be made to reduce capital costs before ambitious schemes for centralised manufacture could be undertaken economically.

Associations

Development and progress of the industry must be steadfastly pursued but boldness in future planning was tempered by the thought of the cost incurred by present-day prices of plant. In gas prices and tariffs it might be expected that the foundation would be a close analysis of the cost of supplies to the various classes of consumers—domestic, commercial and industrial—and that the respective costs would be applied directly to each class of consumer. While it appeared that the industry would move progressively towards sub-area unification of charges, the President, in his address, indicated factors which were likely to prove adverse to Area unification of charges. Regarding the negotiations between the District Associations and the Institution of Gas Engineers, these would receive the particular attention of the Association at the appropriate time, but the views expressed by the President would, no doubt, meet with general approbation. While closer relationship with the Institution was desirable he felt most strongly that members would wish the identity of the Association to be preserved.

Mr. **E. Crowther,** President of the Institution of Gas Engineers, said the address was eminently sane and well balanced. Mr. Melvin had put his finger on many of the questions which would receive consideration in the near future. There was a close sympathy between the North British Association and the Institution. Association members, past and present, had made many contributions to the Institution and the bond of sympathy had grown with the years. It was for themselves to decide if the time had come for them to convert sentimental bonds into something stronger. The Institution had considered the question and had reached the conclusion that it was possible and desirable but had formally resolved to do nothing to enforce its views on any District body. If the view of the North British Association was that the matter should be left alone the Council of the Institutions would do nothing to modify or interfere with that decision. The Institution was there to serve the Association if the Association so desired. He asked for their co-operation at the annual meeting of the Institution.

Luncheon Proceedings

Members of the Association were the guests of the Edinburgh Corporation at the luncheon, presided over by the Lord Provost, Sir Andrew Murray, who introduced the Rt. Hon. Alfred Robens, M.P., Parliamentary Secretary to the Ministry of Fuel and Power. Mr. Robens, he said, had served on Manchester Town Council, had experience in newspaper work and had been Parliamentary Private Secretary to the Minister of Transport before taking up his present post.

Proposing the toast of 'The Gas Industry,' Mr. Robens said that if they looked back over the history of the gas industry they saw clearly that to-day they were entering a fresh phase. The Gas Act of 1948 had provided for the transfer of the industry to national ownership. What did that mean to them? It meant first of all that they now had a great opportunity for the reorganisation of the industry on the lines laid down in the Heyworth Report which had long been recognised as necessary by the most progressive people in the industry. There might be some who did not like the precise form in which they have undertaken the reorganisation of the industry, but there was no doubt that reorganisation was necessary. The present areas of gas supply, appropriate though they may have been to the historical growth of the gas industry, were not really suited to modern conditions and the need for technical progress. The bulk of the gas industry in Scotland was in the hand of 64 local authorities and as one who had had much experience of local authority work he was only too conscious of the difficulties there were in amalgamating

and running a public utility jointly between two or more local authorities. And yet in the densely populated industrial parts of Scotland the local authority undertakings were in many cases so near to one another as to be continuous and it was obvious that there were many problems which, under present conditions, ought to be solved by taking the area as a whole.

One of the Minister's most important and difficult jobs had been the appointment of members of the new Gas Boards. There might be indeed some criticism of the appointments that had been made. In fact it would be strange if there were never any complaints about these appointments. Yet whatever complaints there might be he did not think that it could be argued that full weight had not been given to the need for technical people and men experienced in the running of the gas industry to be represented on the Boards. Mr. Crowther was a most efficient and experienced gas engineer who had devoted his life to the service of the industry and was the Chairman of the Northern Gas Board.

A Strong Team

Here in Scotland they had as Chairman of the Board Sir Andrew Clow, a distinguished administrator of very wide and varied experience. He would be ably assisted as Deputy Chairman of the Board by Mr. Burns, who was formerly General Manager of the Glasgow Gas Department. Additionally, Mr. Melvin, their President, Mr. James Campbell, who had been Regional Gas Officer in Scotland since 1943, and Mr. David Fulton who had up to now been General Manager of the Helensburgh Corporation Gas Department, provided a wealth of technical experience in the gas industry. Mr. Charles Murdoch, who had earned the commendation of all who knew him for his public work and handling of labour matters, completed a first class team with the emphasis on those who had spent their lifetime in the service of the industry.

Gas consumption in Scotland had gone on apace. In 1938 they sold 25,370 mill. cu.ft. to over 927,000 consumers. In 1947 they had increased by over 40% to 36,229 mill. cu.ft. and the number of consumers had increased to 973,000. Of these about 92% were domestic consumers supplied through ordinary and repayment meters. The industrial load was very small, amounting to only 1.2% of the consumers and about 15% of the gas sold. It might well be that therein lay a fruitful field of development. Nearly half the gas sold in Scotland was distributed by two gas undertakings—Edinburgh and Glasgow. Both of these undertakings had secured permission to carry out development schemes on their gasworks, as had several of the other 200 or so undertakings, many of which were small and isolated. In some case where these small undertakings adjoined bigger undertakings, schemes for linking up mains had been agreed and generally the policy of joining up such undertakings had been followed where circumstances so warranted. The amount of coal carbonised at gasworks in 1947 was over 1,909,000 tons. This coal came almost entirely from Scottish pits. At the moment coal stocks represented 2½ weeks' supply compared with 3 weeks for the whole of Great Britain. While stocks were lower than at this time last year (3.7 weeks) the stock position was reasonably satisfactory for the time of year.

Fuel and Power Research

The Ministry of Fuel and Power was taking an ever increasing interest in research in the fuel and power field. The Minister last year appointed a Scientific Advisory Council under the chairmanship of Sir Alfred Egerton and, at the same time, he appointed a Chief Scientist, who was a Member of the Council, in his Ministry. The Chief Scientist and the Council had under continual survey the research going on in industry, nationalised and otherwise, and the Ministry itself was now initiating research and development investigations of a basic and general character. In all this work problems of utilisation and preparation of gas played a most important part.

He felt the time had come when they should make a change of emphasis in considering the functions of the gas industry. They should now cease to talk mainly in terms of gas, with coke and by-products tailing along behind as an afterthought, and think instead of the industry as gas, coke, and by-products. This must be purely a matter of psychology, but all the same it was important. The importance of the products which could be extracted from coal by carbonisation was growing daily and they must look forward to the time when they would no longer send up thousands of pounds worth of valuable tar and other products into the atmosphere as smoke.

Mr. **E. Crowther,** responding to the toast, said when Mr. Melvin asked him to accept an invitation he expressed his diffidence and said that the privilege of responding to the toast belonged to a spokesman of the Scottish Gas Board. It was only when he renewed his invitation that he felt constrained to accept it. In his most admirable Presidential Address he had anticipated much of what he meant to say. The rest of his speech had been anticipated by the proposer of the toast. Mr. Melvin, with modesty and moderation, had sketched his views regarding the future of the gas industry and, in particular, the gas industry in Scotland and expressed his hope and confidence in its future and in its development. At the same time he recognised the problems it had to meet. He expressed his confidence in the future of the section of the industry which fell to be dealt with by the Scottish Gas Board. He (Mr. Crowther) was concerned with a neighbouring area, smaller and more compact, and he was amazed at the courage and fortitude of the Scottish Board in undertaking such a job, in an area so wide and scattered. The pioneer spirit of Scotland, which had enabled them to colonise England and most of the colonies overseas, would enable the Board to do its job with benefit to the citizens of that country and to the industry. There was a saying that new brooms swept clean and for some reason there was a somewhat uncomplimentary flavour about that saying. But what good was a new broom unless it could sweep clean? Here and there there were one or two dusty corners which would be all the better for a brisk application of the broom. Happily for the gas industry those dusty corners were the exception and in the majority of the undertakings about to come under the control of the industry in its new phase they would find they had valuable properties which had been well administered and had been serving the public to good advantage for many years. The city of Edinburgh was a good case in point.

Gas Taken for Granted

The gas industry had different connotations for different people. He had spent his time in it on technical and administrative work and to people like himself it meant an organised entity in which they satisfied their creative instincts and, at the same time, benefited their fellow citizens. The new administration must convey that same feeling. As they integrated into larger units it might be difficult. It had been easier in the small undertaking for a man to feel that he was part of the gas supply of his town. It must be one of the important preoccupations of their new organisation to get the feeling of being part of the gas industry into the minds of all employees in it. The general public took gas services for granted and knew they could rely on them. It was like turning a tap and there was the water; it was all there was to it. Up to a point this was a satisfactory state of affairs, but the gas industry had not made the most of its opportunities to convey to the public some idea of the important part it played in the national economy. The whole conception of the labour-saving home derived from the work of the gas industry and the whole emancipation of women from the conditions of the Victorian era, with all the social consequences flowing from it, owed its origin to their industry. They would do well to get that thought across to their domestic public. Industrial users were better aware of the vital part the gas industry played in the life of the nation. They knew how closely interwoven gas was with all other industries for the efficiency and output of which it was in great measure responsible. So well persuaded of this truth were their friends in industry that the insistence of their demands has been a source of embarrassment.

That was the background of the industry as it entered on a new phase. It was a background of which they all might be proud, not least those ladies and gentlemen who had given so much time, skill, and ability to the administration of its affairs on municipal committees and the directorates of private companies. Their work deserved the highest commendation and he hoped it might be continued through the machinery of the Consultative Councils introduced into the Act governing the industry. They took great pride in the industry. He could not end better than by quoting from the President's Address: 'The new constitution presents us with the opportunity for progress towards a common policy. Given the continued loyalty, goodwill, toleration, enthusiasm and effort of all, I believe that we can achieve our purpose with lasting benefit to those we serve and to the economic welfare of the country.'

Replying to the toast of 'The Guests,' proposed by Councillor **R. West Russell,** Convener of Edinburgh Corporation Gas Sub-Committee, **Sir Andrew Clow** said they were in the very room that day where a historic speech had been made by Sir Walter Scott, who was then associated with the gas industry. He appreciated the sympathy and good fellowship expressed by various speakers. In Scotland the term 'nationalisation' was almost a misnomer when applied to the gas industry for something like six-sevenths of the industry had been in the hands of people elected to carry on government in cities and burghs. The Gas Board would be taking over part of their responsibilities and they would look forward to continued co-operation with them and to having the advantage of their experience, knowledge, public outlook and anxiety to serve the public of Scotland well. They knew how much these people had done in the past. In Edinburgh the Town Council had a gas industry of which it could be proud. They looked forward to carrying on the work and the Gas Board would not be operating instead of these people but with them and with the advantage of their help and co-operation.

Mr. **D. D. Melvin,** who also responded to the toast, conveyed the thanks of the Association to the Lord Provost and to Councillor West Russell. Gas managers usually got pretty well known in their respective towns, perhaps by reason of the many signed

communications, pleasant or otherwise, which they sent to almost every member of their communities. As a group, they endeavoured to avoid personal advertisement, although never neglecting the opportunity of gaining useful publicity in furthering the interests of their undertakings and extending the use of their products. Gas managers in the past had been more or less a non-political body of people. Their work, their close contact with all grades of the community and the fact that they had to provide a 24-hour unfailing service, left little time for other matters, although occasionally a gas manager could be seen on a golf course! They obtained a good deal of satisfaction from the feeling that they were doing a good job of work and were serving the community to the best of their ability. Nationalisation had not the same political significance North of the Border. Over four-fifths of the gas sold had been supplied for more than half a century by local authority owned undertakings and the change in organisation, so far as the bulk of gas supply was concerned, meant in effect the amalgamation of these individual local authority undertakings under one controlling body. Whether the change would be beneficial or not, or whether in Scotland the gradual building up of local works into one composite unit might have been a more natural process, remained for the future. But, whatever the result, he could assure the Minister that the gas engineers and managers and their staffs would continue to give of their best for the good of the community and for the technical and commercial advancement of the industry which was so close to their hearts.

Mr. Melvin expressed his appreciation of the help and forbearance received by him during his 16 years' association with the Edinburgh undertaking, one of the finest in the country. He paid tribute to the Public Utilities Committee, the Town Clerk, the City Chamberlain and to his predecessors who had designed, constructed and operated the works and distribution system, especially to Mr. Herring for planning the magnificent works at Granton and to his immediate predecessor and chief, Mr. Jamieson, who was with them that day and had spared neither energy nor health to put and keep the Edinburgh undertaking in the forefront.

Mr. **David Fulton,** Helensburgh, proposed a vote of thanks to the Chairman.

Golf Outing

The N.B. Golf Circle held their annual Spring Competition for the Winson Scott Cup on the Bruntsfield Golfing Society's Course, Davidson's Mains, Edinburgh, on Mar. 24. A record number of members and visitors enjoyed a day's golf, in perfect weather, on one of Edinburgh's most picturesque courses. The following were the prize winners:—

Winner of the Winson Scott Cup, J. H. Fulton (Haddington), 86 – 15 = 71.

Section 1.—1st: D. J. Colvin (Edinburgh), 82 – 10 = 72. 2nd: W. C. Campbell (Galashiels), 84 – 9 = 75; W. Kirk (Motherwell), 87 – 12 = 75; J. H. McKeller (Glasgow), 87 – 12 = 75.

Section 2.—1st: J. H. Fulton (Haddington), 86 – 15 = 71. 2nd: J. Adams (Glasgow), 96 – 24 = 72. 3rd: W. P. Rae (Troon), 87 – 14 = 73.

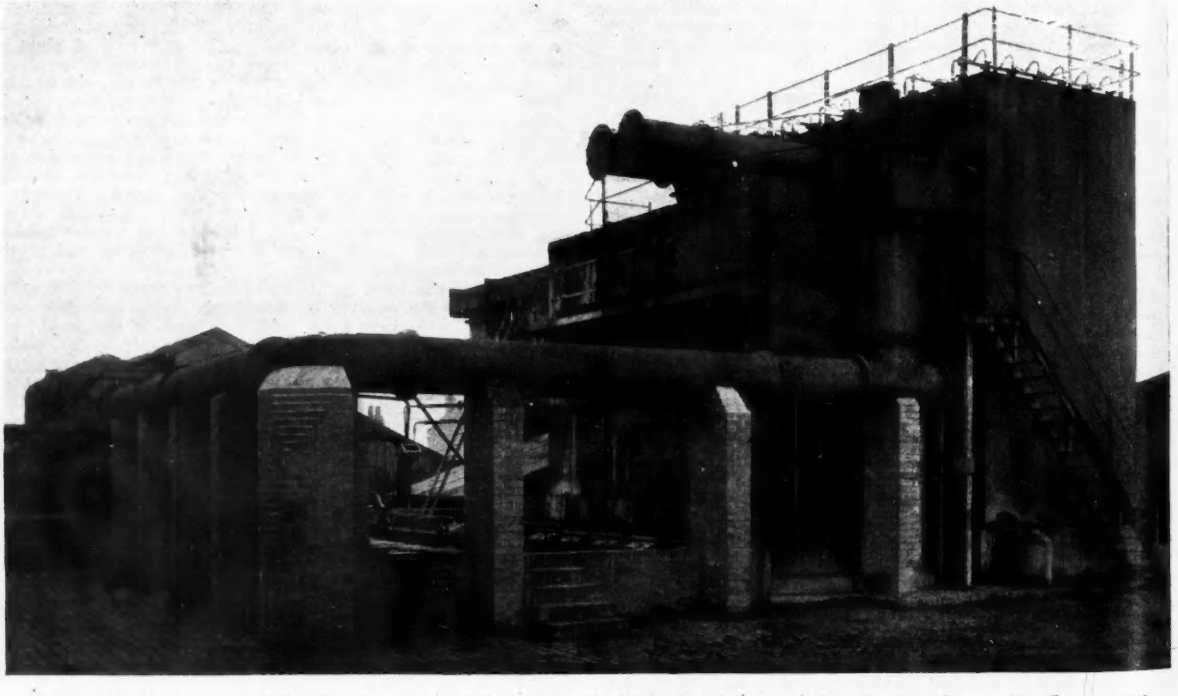
Sweepstake.—1st: J. Holmes-Johnstone (Glasgow), 75 – 4 = 71. 2nd: T. Scott (Linlithgow), 83 – 10 = 73. 3rd: D. Hamilton (Glasgow), 86 – 13 = 73.

At the presentation of prizes in the Club House afterwards, Mr. Alec Jamieson, Captain, presided, and asked those present to be upstanding to pay tribute to the memory of their beloved Vice-Captain, the late Mr. Lewis Fletcher, senr. Mr. Duncan D. Melvin, President of the N.B. Association, presented the prizes to the winners. Mr. Jamieson intimated that the Committee had elected Mr. W. Ross as Vice-Captain to fill the vacancy caused by the death of Mr. Fletcher. Mr. Stanley Bennet was co-opted as a member of the Committee.

THE 'MANCHESTER' LIQUID PURIFICATION PROCESS

LATEST RESULTS AT ROCHDALE ROAD GASWORKS

A FEW days ago, through the courtesy of the Chief Engineer to the Manchester Gas Department, Mr. Rowland Walker, we had the opportunity of inspecting the liquid purification plant for the removal of sulphuretted hydrogen at the Department's Rochdale Road Works, and we are able to publish the latest results relating to a plant which has received widespread attention in the gas industry and concerning which more will be heard. It is not necessary at this stage to go into any detailed description of what has come to be known as the 'Manchester' process, the theory of which was dealt with in the *Journal* by Mr. J. J. Priestley as recently as Feb. 23. In the process hydrogen sulphide is absorbed in an alkaline solution of ammonium and sodium carbonate and allowed to react with an oxygen carrier (ferric hydroxide). This is the first step. The second stage is the oxidation of the ferric sulphide to ferric hydroxide and free sulphur. The latter is in an extremely fine state of sub-division



The 'Manchester' Liquid Purification plant installed at the Rochdale Road Gasworks of the Manchester Gas Department.

and a blend of circulating liquor is passed through a filter press and the sulphur recovered as filter cakes. It all sounds very simple, but behind the plant at Manchester is a great deal of experimental work. We may mention that the co-patentees of the process (Specification No. 611, 917, 1948) are Messrs. R. Walker, C. R. Wilkin (Deputy Chief Engineer at Manchester), H. G. Cooper, and J. T. Brown.

Table A

Cost of Liquid Purification at the Rochdale Road Works, Manchester.

	Period April 1, 1948, to 31st January, 1949 £ s. d.
Attendant's wages	471 16 4
Process materials :	
Copperas	255 16 2
Soda ash	115 16 10
Haulage on copperas and soda ash	19 17 0
Electricity	637 11 2
Steam	580 15 11
Repairs and maintenance :	
Materials	193 17 6
Wages	252 19 7
Sundries	111 11 3
Total	2,640 1 9
Less value of recovered sulphur	575 5 11
Net cost	2,064 15 10
Gas purified (1,000 cu.ft.)	400,126
Cost per 1,000 cu.ft.	1.24d.

Table B

Cost of Dry Oxide Purification for the year ended March 31, 1948, at the Bradford Road Works, Manchester.

	£ s. d.	Per 1,000 cu.ft. gas made d.
New oxide used	3,312 14 10	0.183
Process wages—Emptying and filling boxes, feeding oxide breaker, &c. :	6,883 12 5	0.381
Repairs and maintenance :		
Materials—		
Purifier grids	1,764 8 10	0.097
Ordinary	291 9 7	0.016
Wages	893 1 4	0.050
Small plant and tools :		
Materials and wages	133 2 5	0.007
Special plant and tools :		
Repairs and maintenance of conveyors		
Materials and wages	407 5 1	0.022
Sundry charges	20 11 2	0.001
Ploughing	676 13 8	0.037
Mechanical shovels :		
Haulage, &c.	290 7 7	0.016
Electricity used	90 0 0	0.005
	14,763 6 11	0.815
Less income from spent oxide sold	2,756 2 0	0.153
	£12,007 4 11	0.662
Coal gas purified	4,326,766,000 cu.ft.	
New oxide purchased	2,380 tons	
Spent oxide	3,106 tons	

Dry oxide purification is neither as simple nor as cheap as it used to be. Demand for gas increases daily. In the meantime the cost of box purifier installations also increases in common with every other type of plant, and delivery of necessity is delayed. Then there are the cost and difficulty in obtaining labour for emptying and refilling boxes, and the problem of disposing of spent oxide, which becomes more and more serious. In the contribution to which we have referred, Mr. Priestley contended that undue emphasis should not be placed on costs of liquid purification at this stage of development. 'A point of great importance,' he emphasised, 'is that problems of purification today are not solely economic. They are related to a wider field of changing conditions outside the industry.' Mr. Walker and his colleagues are convinced, however, that the cost of liquid purification at the Rochdale Road Works, Manchester, is less than the cost of purifying an equivalent quantity of gas by the orthodox, dry-box procedure.

In any consideration of the Manchester plant it should be emphasised that the liquid process replaces and does not merely supplement dry box purifiers. It is treating 2 mill. cu.ft. of gas per day and no difficulty whatever is experienced in maintaining gas free from H_2S to meet statutory obligation—in any case an unwarrantable obligation when one finds many gas undertakings distributing without qualm gas containing over 30 gr. of sulphur per 100 cu.ft. Such was the increase in gas production at the works that additional purifying plant became essential, and the capital cost of the liquid plant was much less than would have been the case for the dry box system. The ground area occupied by the liquid plant is, of course, very small in comparison. There is great enthusiasm about the Rochdale Road plant, and those in charge are looking forward to the time when it will be possible to deal with the whole of the load (at present 7 mill. cu.ft. per day) by the liquid process. A plant capable of treating 4 mill. cu.ft. per day is to be erected at the Partington Works and another plant at the Birchenwood Coke Ovens.

The following are working results. Table A gives the costs of operating the plant at Rochdale Road from April 1, 1948 to Jan 31 of the current year. A figure of 1.24d. per 1,000 cu.ft. of gas purified is shown. During the period over 400 mill. cu.ft. of gas was dealt with, the inlet varying from 500-700 grains. It should be emphasised that the cost includes experimental work and special investigations which do not normally appear as a purification cost. Costs for individual months have, in fact, worked out to be 0.69d. per 1,000 cu.ft.

Table B gives the costs of operating dry boxes at the Bradford Road Works over the 12 months ended Mar. 31, 1948. This table sets out the bare purification cost and does not include building, repairs, &c., such as are included in Table A. Table B also makes allowance for the sale of spent oxide. This is now becoming a problem, whereas there is a good market for the sulphur from the liquid process.

In these two tables the throughput on the dry box system is roughly 10 times that of the liquid plant and Mr. Walker told us that he is satisfied that on a larger liquid plant—say, 8 mill. cu.ft. per day the Manchester liquid process will be 30% cheaper than the dry box system.

Diary

Mar. 31.—**London and Counties Coke Sales Circle :** 'Experiences in Dealing with Coke Complaints,' G. H. Fuidge (South Metropolitan Gas Company). Gas Industry House, 2.30 p.m.

Mar. 31.—**Midland Counties Coke Association :** Tenth Annual General Meeting, Grand Hotel, Birmingham, 2.30 p.m.

April 7.—**Midland Junior Gas Association :** President's Day at Birmingham. Afternoon visit to Stechford works of Parkinson Stove Co., Ltd.

April 8.—**London and Southern Junior Gas Association :** 'Some Random Thoughts on Gas Distribution Practice,' M. E. Lee. Edgware Road Office, Gas Light and Coke Company, 7 p.m.

April 9.—**Scottish Junior Gas Association (Eastern District) :** Short Paper Day at Dunfermline.

April 12.—**National Federation of Gas Coke Associations :** General Committee. Gas Industry House, 10 a.m.

April 12.—**British Gas Council :** Central Board, Gas Industry House, 2.30 p.m.

April 21.—**Southern Association of Gas Engineers and Managers :** Meeting at Exeter.

April 22.—**Northern Junior Gas Association :** 'A Theoretical and Practical Study of the Removal of Hydrogen Sulphide from Coke Oven Gas.' T. R. Wicks. Darlington Gas Works.

April 22.—**London and Southern Junior Gas Association :** Reception and Dance.

April 22.—**London and Counties Coke Association :** Finance Committee, 10.45 a.m. ; Executive Committee, 11.30 a.m. ; Central Committee, 12 noon. Grosvenor House, Park Lane, W.1.

April 22.—**Institution of Chemical Engineers :** Annual Corporate Meeting, May Fair Hotel, Berkeley Street, W.1.

April 22.—**Manchester District Association of Gas Engineers :** Annual Meeting and Luncheon, Grand Hotel, Manchester.

April 23.—**Manchester District Junior Association of Gas Engineers :** 'The Juniors and the Press,' Norman Smith. Engineers' Club, Manchester.

April 23.—**London and Southern Junior Gas Association :** Visit to Ponders End Works of the Tottenham and District Gas Company.

April 26.—**Southern Association of Gas Engineers and Managers (Eastern District) :** 'The Selection and Design of Gas Condensing Plant,' K. W. Francombe and A. G. Grant. Gas Industry House, 2.30 p.m.

April 26.—**Midland Junior Gas Association :** Annual General Meeting.

April 28.—**Institute of Fuel :** Annual Luncheon, Connaught Rooms, London. 1 p.m.

May 6.—**North of England Gas Managers' Association :** Annual General Meeting, Newcastle-on-Tyne. 'Sulphur Removal,' Dr. L. A. Moignard, M.A., D.PHIL., A.R.I.C. (Gas Research Board).

Grangemouth Gas Department, which raised the price of gas by 7¾d. a year ago, has decided to reduce the charges to their original level of 5s. 1d. per 1,000 cu.ft. for ordinary meters and 5s. 4d. for prepayment meters, as from May 17.

NORTH BRITISH ASSOCIATION OF GAS MANAGERS

PRESIDENTIAL ADDRESS*

of

DUNCAN D. MELVIN,

Engineer and Manager, Edinburgh Gas Department

THE year 1949 will be remembered in the gas industry as one of historic significance, marking the end of the epoch of multiple undertakings and the establishment under unified ownership of an industry which has served the country and the community for a period of 130 years. The early pioneers of our industry, if they could return to-day, would be amazed at the development which has taken place and astonished to find that the industry which they established has grown to become one of the major industries of the country with an invested capital of £260 mill., processing each year 24 mill. tons of coal and oil to supply gas to 11½ mill. consumers.

We pay tribute to our predecessors, both those whose names are writ large for their scientific and engineering achievements, and those—the great unnamed—whose constant diligence and devotion to duty have built a great industry with a high record of unfailing service to the community which it is our duty to continue and enhance. Numerous examples can be cited of the confidence with which these earlier generations of gas engineers viewed the future and their foresight has left us with many valuable investments to-day. In Edinburgh, we enjoy the fruits of the bold planning of Mr. W. R. Herring who, in 1900, budgeting for a tenfold increase in output, provided the ample site at Granton and linked the new works to the old area by a 48 in. main.

Nationalization of our industry has probably not the same political significance north of the Border as it has in the south. Six-sevenths of the gas sold in Scotland is supplied by 64 local authority undertakings, and it is of interest to record that in the four cities the private gas companies were purchased by the cities of Glasgow in 1869, Edinburgh in 1888, Aberdeen in 1871, and Dundee in 1870. The remainder is supplied by four statutory companies and 129 non-statutory works.

What is regretted by some of the present local authority owners is, I think, the loss of the individuality of each undertaking and the diminution of local prestige, especially where the undertaking has pursued a progressive policy; what is feared is that, in the absence of local control, discussion or criticism in council or Press will have little influence. The dead hand imposed by over-centralization has, however, been guarded against in the provisions in the Gas Act, and the Scottish Gas Board is an autonomous body responsible for all the activities of the gas industry in Scotland. Opportunity for local representation is created in the Consultative Council at which criticism of the operations of the Board may be freely voiced, and through which constructive suggestion and advice may be given to assist in improving the industry and in further raising the standards of service.

The obligations and powers of the Scottish Gas Board under the Act are onerous and far reaching, and their discharge and exercise will affect us all in varying degree.

Nationalisation and Its Opportunities

In the midst of a time of change it is dangerous to don the mantle of prophet, and he who does runs the risk of finding on the morrow that his most confident predictions have been confounded. Nevertheless, I feel that this address would lack realism and interest if it ignored entirely the modifications which may follow after vesting date.

Within the skeleton structure provided under the Gas Act, it is our duty to secure that the benefits it confers are translated into improvement in our service to the public with a corresponding expansion in the use of our products, and of the opportunities for advancement open to those employed in the industry.

The most obvious direction in which improvements in service can be made is through the building up of specialist, technical and administrative services, functions which can be better performed by large organisations than by scattered small units with limited facilities and finance. Improvement in service to the public will not come about only through technical improvement, but will depend to a much greater extent upon the spirit which the Area Boards and the Gas Council engender in their employees and especially in those responsible for management. The hope has been expressed that local managements will be left with full responsibility within the broad framework of general policy and will be given as large a share as possible in the determination of policy; that they will be left with some discretionary powers to break the rules when the rules do not fit; that they will have scope for their initiative and enterprise, and that they will not be denied their fair share in the rewards which follow upon the exercise of these qualities.

The system by which the industry has determined its national and regional policies in the past has, even with its admitted defects, much to commend it. It might be called the committee system, with national, regional, and district committees consisting of representatives freely elected by the constituent undertakings. It is essentially a democratic system and suffers from the defects of democracy—it takes up a deal of time of committee members and takes longer to produce decisions than more dictatorial methods. On the other hand, the decisions when made are more likely to be right and generally acceptable, but the supreme merit of the system is that nearly everyone responsible for management feels that he has had some part in the formation of policy; he knows the reasons for it, even if he does not entirely agree with it; in short, and above all, he feels that he "belongs" and that makes for the right attitude to his work.

Integration or Group Working

The question of integration or group operation has been discussed at former meetings of our Association, particularly by Mr. J. W. Napier in his Presidential Address in 1929, and by Sir W. E. Whyte in a paper entitled "The Question of Combining Gas Undertakings in Scotland" in 1926. In the latter paper, the number and size of undertakings were given, and it is of interest to observe the changes since that date as shown in Table No. 1.

Table No. 1.

Classification of Undertakings by Size

Groups	1925	1947
1 mill. cu.ft. and under	11	Nil
Over 1 mill. cu.ft. and under 10 mill. cu.ft.	79	30
Over 10 mill. cu.ft. and under 30 mill. cu.ft.	74	44
Over 30 mill. cu.ft. and under 50 mill. cu.ft.	23	39
Over 50 mill. cu.ft. and under 100 mill. cu.ft.	20	28
Over 100 mill. cu.ft. and under 200 mill. cu.ft.	19	25
Over 200 mill. cu.ft. and under 500 mill. cu.ft.	8	17
Over 500 mill. cu.ft. and under 1,000 mill. cu.ft.	2	9
Over 1,000 mill. cu.ft.	4	5
	240	197
Owned by Companies	159	124
Owned by Corporation or County Authorities	66	63
Owned privately	14	9
Owned by Joint Gas Commission	1	1
	240	197

The difference in the number of undertakings between the two years is significant and is accounted for by—

Undertakings closed down	20
Undertakings absorbed or amalgamated	23

The undertakings closed down had an average output of 1.8 mill. cu. ft. per annum, and at least one has since been redeveloped. The undertakings absorbed had an average output of 23 mill. cu. ft. per annum. In addition, at least six undertakings now receive bulk supplies of gas.

Theoretical integration or grouping without consideration of all factors is of somewhat academic interest, and geographical

* Presented at the Spring Meeting, Edinburgh, March 25, 1949.

relationship considered alone may lead to false conclusions. It is, however, a primary criterion and it is interesting to examine the possibilities of integration in Scotland on this basis. There are 24 undertakings whose makes exceed 250 mill. cu. ft. per annum, and assuming that all smaller units within 15 miles of the larger units were provided with bulk supplies, the number of production centres falls to 77, grouped as follows :—

Over 250 million cu. ft.	24
Over 100 million and under 250 million cu. ft.	7
Over 50 million and under 100 million cu. ft.	7
Under 50 million cu. ft.	39
	77

The large production centres, with the exception of Aberdeen, fall within the populous rectangular area bounded by Montrose, Dunbar, Helensburgh, and Girvan. Outside this area, only one group of undertakings presents possibilities of integration, but there are many small undertakings within easy reach of each other where joint management, if not common production could be introduced.

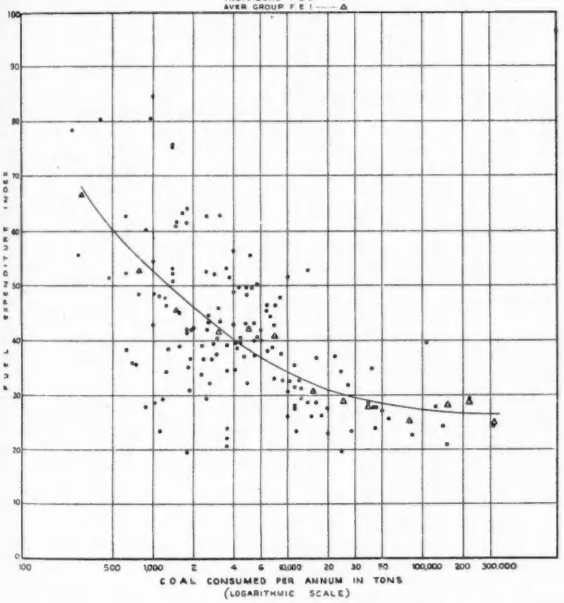
Another aspect of integration is its effect on fuel conservation, and Chart No. 1 shows the fuel expenditure indices of Scottish undertakings, corrected for water gas, on a logarithmic base of size of undertaking as measured by gross annual consumption of coal. A logarithmic base has been adopted as the only means of showing the preponderance of small undertakings distinctively whilst keeping the few very large undertakings within the bounds of a reasonably sized chart.

CHART No 1.

FUEL EXPENDITURE INDICES - SCOTTISH UNDERTAKINGS

INDIVIDUAL F.E. ——•——

AVER GROUP F.E. ——△——



The chart, which has a pepper-box effect, gives the individual values for all undertakings making returns to the Regional Gas Engineering Advisory Board. The curve has been prepared to see if there is any distinctive relationship between size of undertaking and fuel expenditure index, and the average value for undertakings grouped by size has been plotted with a reasonable curve as the result.

I am aware that there are wide differences between individual undertakings in the same group and the fuel expenditure index has been the subject of merited criticism but, for all its failings, it is still of value in giving a measure of the relative thermal efficiency of different works. The calorific value of average Scottish coal is admittedly below the figure used in the fuel expenditure index computation, but this affects all undertakings. Moisture content of coke sold also exercises influence on the individual result, but these and other factors are not of a magnitude to affect the broad conclusion that can be drawn from the charts, namely, that works below 10,000 tons of coal per annum are, on average, operating at reduced efficiencies compared with larger units. The weighted average coal gas fuel expenditure index for undertakings above this datum size is 27.1, whilst for undertakings below it is 39.7. If, therefore, production of the gas supply by smaller undertakings could be carried out at the average efficiency achieved by the larger undertakings there would be a reduction of 12.6 in the fuel expenditure index. It is not possible from available information to say what proportion of the economy would appear as savings in coal and in increased yields of gas, coke, and residuals, but taking it as a percentage of the coal processed by the smaller undertakings it amounts to 43,000 tons per annum. At a rough valuation of £3 per ton this would yield £129,000 per annum, or a sum sufficient to service over two million pounds of capital expenditure at 6 per cent. for interest and redemption. Such a sum will be far short of the amount required to secure the improvement of production efficiency, and one of the problems which will face the new authority is whether the criterion as to action to be taken is to be based on economic considerations or to be primarily influenced by the need for national fuel economy.

Consideration in recent months of the economics of integration schemes has cast doubts on the financial soundness of some superficially attractive proposals. It is granted that there may be some economy in supervisory staff and in capital charges for large units, but the very high costs to-day of mainlaying and the prime and operating costs of pumping equipment more than offset the economy if the gas has to be conveyed farther than a few miles. One of the strongest arguments in favour of the liquidation of small units even against the economics of the proposal is the dearth of technicians in the industry, and the great difficulty of attracting them to posts in minor units of plant. It may be, however, that for quite a time at least practicable integration will lie more in the administrative and service fields rather than in any large reduction in the number of small manufacturing plants with corresponding development of long distance transmission. On the other hand, schemes, which at first sight looked quite uneconomic, have shown that, where past development has been retarded by poor service or inefficient supply, the rapid progress made after integration has more than justified the bold capital investment necessary for the venture. The examples in Table No. 2 from the Edinburgh supply area are typical of what can be expected from a policy not unduly restricted by immediate economic results.

Table No. 2.

Place	Output or estimated output, 1935-6 Mill. cu.ft.	Output 1948 Mill. cu.ft.	Increase
Broxburn	15	72	380%
South Queensferry and four villages	14.5	60	314%

There is no doubt that the greatest drawback to any immediate scheme of physical linkage on a large scale will be the prolonged delivery dates for the completion of new works and the prevailing high rates for the construction of carbonization and other plant. The cost of laying mains and service pipes has not increased as much as the cost of providing works plant, and, where trunk or grid transmission mains can be laid in virgin ground, the employment of modern excavating and trenching machinery and the use of mechanical joints enables the labour costs of mainlaying to be reduced to less than pre-war cost where hand labour was formerly employed. Before ambitious schemes for centralized manufacture and distribution can be undertaken economically, strenuous endeavours will require to be made to reduce those capital costs which have risen out of all proportion to the increased cost of materials and wages.

Capital Costs and Price of Gas

It has been estimated that the cost of new manufacturing works is now at least two and a half times the pre-war value and if provision is made for improvements in methods of operation and for suitable amenities, the cost may be three times as great. Distribution costs may be put at twice as much as pre-war.

If the pre-war figures for manufacturing and ancillary plant and distributing plant are taken as £15 and £27 per therm per maximum day, the combined present-day costs will be almost £100 per therm per maximum day. Allowing the low figure of 6% for interest and sinking fund, the annual payment would be 6.5d. per therm delivered where the average consumption is 100 therms per consumer and the maximum day represents 1/220th of the annual output. If the average annual consumption amounts to 200 therms per consumer, the annual charges for interest and sinking fund would be 4.4d. per therm where the maximum day was 1/260th of the annual output, assuming that the low pressure distribution system for the lower consumption is designed for medium pressure distribution and that there is an improved distribution load factor. Corresponding increases might also require to be borne in the early stages in increased rates and income tax under present methods of valuation, and there would appear to be advantages in pressing for some form of stabilised rating similar to that included in recent legislation for other utilities.

Capital costs such as these must tend to act as a deterrent to the installation of new plant and appal the engineer who has been accustomed to capital charges of less than three-halfpence per therm. But it should be borne in mind that undertakings, and local authority undertakings, in particular, are now living on their fat ; that is to say, a large proportion of their capital charges has been written off, and gas to-day is undoubtedly too cheap in rela-

tion to the present-day costs of new plant and equipment. This partly accounts for the fact that the price of gas has risen only by perhaps 50/60% on pre-war figures while coal, wages, and plant and materials have risen by anything from 100% to 300%.

The small increase in gas prices in relation to the increases in prices of solid fuels is in turn responsible in some measure for the steadily rising consumption of gas. In so far as new plant and mains are required to meet it, the rising demand will gradually over a period of time produce the corrective of rising gas prices. On this reasoning, one is tempted to the view that demand should be discouraged till plant prices fall to more reasonable levels. On the other hand, there is no positive certainty that they ever will, and besides, if we refuse to go forward, we may end by falling back. Perhaps the balanced view is that in established gas undertakings, the present high capital charges will for a good many years to come be diluted, so to speak, by the low levels of capital charges reached by the end of the war, and if the present favourable prices encourage the public to rely more and more upon gas for their heat services, the higher consumptions per consumer will in some measure offset the higher capital costs incurred in meeting them, especially if the new works plants are measurably more efficient than the old.

Table No. 3 shows the cost of gas in Edinburgh for the years 1930, 1939, and 1948, and brings out clearly the lowering of on-cost charges with increase in output. I have also included in an appendix, output curves and other statistics having some bearing on this question.

Table No. 3

Cost of Gas in Edinburgh

	1930 Amount £1,000's	1930 Pence per 1,000 cu.ft. sold	1930 Per cent. cost of gas	1939 Amount £1,000's	1939 Pence per 1,000 cu.ft. sold	1939 Per cent. cost of gas	1948 Amount £1,000's	1948 Pence per 1,000 cu.ft. sold	1948 Per cent. cost of gas
Net coal, oil and coke	86	6.64	21.3	104	6.16	22.6	373	13.77	34.9
Wages and salaries	19	1.48	4.8	27	1.64	6.0	60	2.60	6.6
Repairs and maintenance and general charges	66	5.12	16.5	75	4.43	16.3	179	7.56	19.2
Purification	2	0.18	0.6	2	0.10	0.4	7	0.28	0.7
Distribution	78	6.11	19.6	74	4.40	16.1	148	6.25	15.8
Management	36	2.80	9.0	36	2.18	8.0	76	3.19	8.1
Superannuation and allowances	12	0.91	2.9	13	0.76	2.8	22	0.92	2.3
Local rates, rents and insurances	36	2.75	8.8	33	1.97	7.2	30	1.28	3.3
Income tax	15	1.19	3.8	28	1.66	6.1	34	1.45	3.7
Contribution to sinking fund...	51	3.96	12.7	66	3.94	14.5	50	2.13	5.4
	401	31.14	100.0	458	27.24	100.0	979	39.43	100.0
Cost per therm...		6.23			5.73			8.76	
Calorific value, B.Th.U. per cu.ft.		500			475			450	
Therms sold, mill.		16			19			27	

Comparatively little capital expenditure has been incurred to meet the increase in output since 1939 which has been met by the absorption of the safety margin of surplus plant and by the improved load factor. Extensions now in hand, costing two to three times the pre-war price, are bound to have their effect on the price unless accompanied by further remunerative increases in output.

Gas Prices and Tariffs

A clean sweep of existing legislation in the Gas Bill is one of the unqualified advantages of the change. Legal obstacles to the introduction of soundly constructed promotional tariffs are removed and one of the tasks of the new authority will be the design of new and rationalization of existing tariffs. The range of price to the ordinary consumer in Scotland varies from under one shilling a therm to over two shillings a therm.

Unfortunately, prices are in many cases not related to the local circumstances affecting the cost of manufacture and supply but are an inheritance from the policies pursued by the undertakings in the past. The need for the same total revenue from the sale of gas will continue under the Area Board, but the problem arises as to whether a single owner can justify different charges for the same product to consumers in like circumstances. If unification of charges is to be secured it can only be done by subsidy, which means the raising of the price of gas to those consumers who have in the past enjoyed supplies from efficient and well-conducted undertakings. The consumers in the latter areas are not likely to take kindly to an increase in their gas bills, but there is no alternative if rational tariffs are to be constructed in all sub-areas, assuming these will be created. No doubt, as integration and reconstruction of works continue in the future, wide differences in local costs due to differences in production and distribution efficiencies will ultimately disappear, although those localities well provided with plant prior to the war will still enjoy much lower capital charges than where extensive provision of plant has been necessary at the present level of capital costs. But even this difference will, in theory at any rate, ultimately pass with the passage of time. What will not change are the differing costs of production and distribution brought about by differing geographical location and local topography. It will therefore be necessary to consider how such factors as coal haulage charges and density of demand for gas are to be assessed, and if such factors are to be reckoned on a sub-area or area basis.

With a view to ascertaining the extent of the problem in Scotland, I have abstracted and grouped the published standard prices for gas of all undertakings in Scotland, and Table No. 4 shows the result of this grouping.

It will be observed that although the price per therm rises from 11d. in Group A to 1s. 6d. in Group D, the weighted average price is less than 1s. per therm. It would appear, therefore, that an increase of 1d. per therm in the price of gas by the larger undertakings would enable the price in other undertakings to be reduced to the common level if this were thought to be necessary or desirable, whilst a similar increase of 0.4d. per therm would enable prices in Groups C and D to be reduced to the average level of Group B. The figures do not, of course, take account of the average price of gas supplied by each undertaking, but it is felt that the comparative position would not be greatly altered, although within each group anomalies and differences are apparent and would require individual consideration.

North British Association Future under Nationalization

The question of the future of our Association under nationalization has been a matter of concern in recent months and certain suggestions regarding the future of the District Associations have been mooted as to whether they should be linked more closely to the Institution of Gas Engineers or remain as independent Associations. There is a certain weight of opinion in favour of adopting a wait-and-see policy presumably in the hope of maintaining the *status quo*, but the fact must be faced that the existing constitutions of the District Associations—in particular the qualifications laid down for membership—may be rendered meaningless as the new organization structure for the industry is developed. In course of time there may be fewer Gas Managers as we have known them in the past, and it was the Gas Managers who were the founders, and are the principal members of the District Associations.

Table No. 4

Selling Price of Gas in Scotland

(Based on Published Standard Price, 1947)

Group	Undertakings in size groups according to annual make in millions	Per cent. total output	Weighted average price per therm Pence
A	Over 250	79.4	10.91
B	100-250	11.0	13.57
C	50-100	4.4	15.52
D	0- 50	5.2	17.75
		100.0	11.77

I would say to those who counsel delay that it is surely wise of us to take the initiative in reforming the Associations to conform with the new structure. One of the difficulties in considering a change in constitution is the question of qualification for membership. This has for the most part been based in the past on the status of the member, but in the absence of knowledge of the organization which may be set up by the Area Board it is not possible to suggest any equivalent system of qualification by status.

One suggestion which has been considered was that the District Associations be reformed as district bodies of the Institution of Gas Engineers, and that the qualification be membership of that Institution. There are objections to this in that in the past many useful gas industry members of the District Associations have not been members of the Institution of Gas Engineers, and that representatives of commercial interests have also enjoyed a class of membership. I feel that the modified form of association must cater for such members of the present associations, but that this will be a passing phase for, in the senior technical ranks

of the future industry, there may be few not members of the Institution of Gas Engineers. It is also doubtful if in course of time the value of close relationship with commercial interests through this medium will continue to have the same significance. Instead of, as at present, each individual Gas Manager being responsible for the construction and development of his undertaking and plant, the trend may be to a few specialist groups with appropriate facilities being responsible for the design and installation of manufacturing and distribution plant.

Any alteration in membership qualification will probably qualify many younger technicians for admission to our Association; I cannot see that this is undesirable, and the revised Associate Membership examination of the Institution of Gas Engineers will ensure that those who achieve membership are worthy members of any district body.

There is a special problem in Scotland in the existence of two Associations—The Waverley and the North British. If, in the future, there is to be closer liaison with the Institution, there cannot be two sections of the Institution of Gas Engineers in Scotland, and the suggestion has been made that the Waverley and the North British should fuse under a new identity. That is a sad thought, for the Waverley is the oldest gas association of all, and has dwelt amicably in Scotland with its younger brother for many years. As I wrote these words, sentiment almost overcame logic, but I may say this matter has already been seriously deliberated by the Councils of the two Associations, and with regret it was felt desirable to set up a joint body to consider their possible fusion and modification to fit into the gas industry of the future.

Any conclusions I have made are my own, and indeed I have purposely aired various views that are held so that members may weigh the matter with care, and give their considered opinions when the time comes to make a decisive alteration in the constitution of the Association.

Coal

An important problem facing the carbonization industries in Scotland and one which will increase in acuteness in the future is the dwindling availability of coking coals. Scotland has never been rich in coking seams and the main coking seams of the Central Area are running out. Unfortunately, so far as is known, the large reserves of coal in Fifeshire and in the Lothians do not contain major seams of coking coal. It is, therefore, a matter of importance to the community and a vital necessity to the coke oven and gas industries that the best use is made of the remaining coking coal since, when the present reserves are exhausted, there will be no alternative but to import coal from the North of England if the carbonization process of to-day is to be continued economically.

The situation is not, however, as serious as the low percentage of coking coal supplied to Scottish undertakings by the National Coal Board would suggest. It would appear that much coking coal is being diverted to steel works, locomotive traffic, and even the domestic market for reasons not associated with the caking value of the fuel. The railways are interested in certain of the Scottish coking coals for their high ash fusion temperature, while quantities are sold to the steel industry and on the domestic market solely because such grades had been used by these consumers before the war. If there is any virtue in national planning, this is a state of affairs calling for wise direction, and early opportunity should be taken of the provisions in the Gas Act for collaboration with the National Coal Board to secure that caking fuels are only marketed where advantage will be taken of their coking properties. There is no reason why non-caking grades should not be supplied to the other markets, since modification of the utilization equipment is unlikely to present serious difficulty. At the same time, regard must be had to traditional Scottish carbonizing practice in which a considerable proportion of the fuel carbonized in pre-war years was not of a type generally regarded as a gas coal. I refer to the high volatile fuels having a volatile matter content of over 37% on the dry ash free basis, but with a low swelling number of 1 to 1½. Such fuels represent a very large proportion of the total coal reserves in Scotland, and it is a great mystery why the industry is at present called upon to carbonize unsuitable household coals in their place, and to pay a premium for so doing.

Dr. King, in his recent paper to the Institution of Gas Engineers, quoted data from the Fuel Research publication "The Rapid Survey of Coal Reserves and Production." He estimated that the projected annual output for the years 1942-52 of first and second choice gas coals in Scotland would be 4.7 mill. tons. According to the "Statistical Digest" the amount of coal used in 1947 by the coke ovens was 1.25 mill. tons. Allowing that 1.5 mill. tons of the planned output may consist of unsuitable grades by reason of size or ash content, there is still, after meeting the needs of the coking industry, a balance of 1.95 mill. tons of coking coals for the Scottish gas industry. The Statistical Digest shows that the amount of coal supplied to Scottish gas undertakings in the year 1947 was 2.4 mill. tons.

On the foregoing figures, therefore, it appears that out of 2.4 mill. tons of coal required by the Scottish gas industry 1.95 mill. tons, or 80%, can be provided in the form of home produced coking coals, a higher proportion than the Scottish gas industry has ever received in the past. Much of this is in the form of large coal, and one of the reasons given for the gas industry not having been more freely provided with it is the lack of coal breaking plant in some of the larger undertakings. As you are all aware, the quality of Scottish coke has been much criticized of late by Continental buyers, and this criticism will only be overcome by producing coke of a quality comparable with Durham and similar English cokes. This result can be achieved by the use of larger percentages of coking coals in Scotland, and an important feature of new carbonizing plant should be adequate provision for breaking large coals. The new price structure is likely to confirm the wisdom of this policy since the differential charges for washed doubles and trebles over screened or unscreened large coals may be such as to discourage further purchase of closely graded and cleaned coals.

The poor deliveries of coking coals have in recent years created a considerable problem to undertakings called upon to carbonize stock coals at time of peak load with plant of limited capacity. It appears that the industry must be prepared to lay down large stocks in the summer to be used during the winter months. For this purpose only caking coals are suitable. The carbonizing results achieved from the non-caking and some of the household varieties of coal recently delivered to the industry after they have been in stock for a few months are deplorable, and seriously prejudice the ability of undertakings to meet the requirements of their consumers.

The capital cost of carbonization plant has reached such proportions that maximum thermal output per unit is vital to economic working. If unsuitable coals are to be carbonized, excessive reserves of plant must be provided, resulting in a still further addition to the already heavy burden of capital charges.

These are all problems of the moment. What of the more remote future? It appears that it is necessary to prepare for reduced availability of coking fuel and for the acceptance of inferior grades as an alternative to meeting long haulage charges. The trend of plant design should be towards a process capable of handling a wide range of types of fuel. Plants which are highly selective in their characteristics are undesirable since it is probable that specially selected high grade fuels will tend to be so priced that production of gas from them will be too costly. Washed and cleaned fuels may be made to carry the full burden of the cost of preparation and production in future, and this is going to add substantially to fuel charges. It may be that static forms of carbonization with their ability to carbonize unscreened and small fuels will come into their own again.

Closely associated with the quality of coal supplies is the quality of the resultant screened coke, and in normal carbonization practice to-day ash content in coke is largely determined by the ash content in the raw coal. It would be unwise, however, to accept this as an unalterable consequence. In those coals where the ash is distributed throughout the mass, little can be done after the process of carbonization, though it may be that it will be profitable for gas undertakings to instal their own washing plant to handle the incoming coal. On the other hand, where a large proportion of the ash is in the form of extraneous stone, slate, &c., which appears separately in the resultant coke, the development of efficient coke cleaning plant would do much to improve quality. There does not seem to have been sufficient effort put into the development of coke cleaning plant, but now that it is clear that coke of a high and consistent standard of quality must be produced to maintain revenue from its sale, then it is clear that well designed and effective coke cleaning plant, which does not deal too harshly with our product, is an urgent requirement of the industry.

These remarks in no way relieve the National Coal Board of the responsibility to improve qualities of coal supplies generally. It may be that the working of less attractive seams and the use of mechanized coal cutting has depreciated the average standard of product, but I for one feel that a very great deal remains to be done in the introduction of new, and more efficient operation of existing, washing, cleaning and screening plants. The poor standard of hand picking and the present indiscriminate mixing of seams which are all too common practices, call for immediate and effective action.

The Financial Aspect of Coke Production

One often hears it said that the price of coke has gone up too much since 1939 and that this accounts for the relatively low price of gas. The truth of this is open to question. If we take experience in Edinburgh as typical—and no doubt the experience in most other undertakings is similar—it is true that we find that coke revenues in 1947/48 were over 60% of gas revenue as compared with less than 40% in 1939, but this only proves that, other things being equal, the price of coke has gone up more than the price of gas. From the point of view of gasworks finance, the comparison should not be with gas but with coal, and here we find that although the works price of coal has gone up by nearly 150%, the works price of coke has gone up by

under 120%, and the retail price by 100%. Put another way, coke at works in 1939 realised nearly 50% above the coal price; to-day, the difference is around 20%. In short, coke is doing less to keep down the price of gas than it did in 1939. The reasons for the low price of gas are therefore to be sought elsewhere. I have already suggested that part of the explanation is to be found in low capital charges relative to the general price level. The rest of the explanation lies mainly, I believe, in the greatly increased consumption per consumer—some 50% higher than pre-war—and the consequent reduction in costs per therm of gas sold. The subject is one we should do well to ponder.

Whether the retail price of coke is too high in relation to other fuels is a different matter—paradoxically enough it seems to be losing ground in certain directions to gas. Good coke should be able to hold its own with high quality house coal, but bad coke used in the wrong appliances may be dear at any price. My own view is that, as capital and maintenance costs continue to rise as war-time arrears are overtaken, we should expect to maintain and even increase the contribution of coke to the finances of the industry. Again expressing a personal view, it seems that this can only be done by greatly extending the domestic market for coke. It is extremely doubtful if the industrial and commercial markets can ever yield a price high enough to cover the costs of coke production. The tendency should be more and more for industry to use low grade coals, and for high grade processed fuels like coke to be diverted to the more fastidious domestic market. Yet in Scotland at least, and probably over a large part of England as well, the domestic market provides an outlet for only a small fraction of coke production; and this is simply because no real effort has yet been made to produce suitable household cokes nor to market coke-burning appliances. Yet this market should be wide open to us; the Simon report, accepted by the Government as a policy for the future, recommends the abolition of bituminous coal as a domestic fuel and the substitution of solid smokeless fuels supplemented by gas and electricity. The gas industry produces by far the largest quantity of solid smokeless fuel for the general market, and this is an opportunity for the nationalized industry to continue and greatly expand the work of the Coke Associations in developing suitable appliances and fostering the production of suitable cokes. The immediate need of gas managements is clear guidance as to the suitability and availability of appliances, and forceful publicity, combined with a scheme to facilitate the movement of coke from one area to another.

Recruitment and Training

Of all the obstacles to expansion and technical development of the industry, the lack of experienced technicians is probably the gravest. This is a plaint in many industries to-day, but the matter which gives great anxiety in the Gas Industry is the results of recent Institution of Gas Engineers' examinations. I have been much concerned as to whether the cause is the poor calibre of entrant to the industry, poor training after entry, or a higher standard of marking in the examinations. The problem is quantitative and qualitative, and I am afraid that lack of glamour in the young man's eyes is the prime cause of both deficiencies. Brilliant young men, on qualification, are attracted by developments in atomic physics, plastics, aeronautics, and the like. Perhaps it is a pity we persist in using the description "Gas Industry" though, since gas is the chief product, it is a rational one; but the term "Carbonization Industry" might prove more attractive. Perhaps recruitment has been haphazard and the terms offered not always attractive. These are matters which can be rectified under the new ownership. But that, I feel, will only go a little way to solve the problem. There must be a country-wide effort to popularize careers in the Industry to ensure that suitable numbers and qualities of graduates are recruited from the Universities. Nor must we forget to provide for that backbone of the industry in the past—the young man who has made his way up from the ranks by virtue of hard work and part-time study. Many leaders of the industry to-day have made the grade in this, the harder way, and have been none the less effective for that. I am old-fashioned enough to believe that those who travelled the harder way were the better men for it. However, it is necessary to move with the times and the general introduction of attractive and effective schemes of training for pupil gas engineers is a matter of urgency.

The trend in the nationalized industry, as in all large organizations, may be to functional groups since rapid technical development of the industry makes it impossible for one man to be expert in all aspects of gas engineering. The training, therefore, of the young men will tend to be in specific branches of gas engineering, but it is important that specialization should only come after a sound general training.

In the past, the manufacturing side of the profession has attracted the greater number of aspiring young men because this was the ladder which led to the managerial chair, and the present dearth of distribution engineers is the outcome. In the nationalized industry, the distribution engineer and the utilization engineer will rank with his production colleagues, and recruitment of distribution and utilization technicians is of even greater urgency than increase in the number of production engineers.

The selection and training of workers to improve quality of craftsmanship and increase output of work is important to the industry and the nation alike. It is the general experience that the pace of execution of work has slowed down and in time of full employment an alternative incentive to the fear of unemployment has to be devised. Bonus schemes are not as easily applied in the gas industry as in production engineering, and profit-sharing schemes may be extinguished by the Gas Act, though it is a matter of contention whether the latter were an aid to higher productivity—their virtue would appear to have been rather in improvement of labour relations. A payment by results scheme for meter readers has just been introduced in Edinburgh, and first results show an increase in output of 11% for ordinary meters read and a 30% increase in cash collected from slot meters. These increases were accompanied by substantial increases in earnings, but also showed that a certain amount of free time was in some cases preferred to extra money. The training of gasfitters and the introduction of classification schemes under which, for improved standards of craftsmanship, the worker receives additional reward, are another approach to this problem.

There are, however, many other classes of worker in the industry who could with general benefit be accorded training. In the past few years, the Fuel Efficiency Committee of the Ministry of Fuel and Power have improved the standards of boiler firing by education of stokers. The semi-skilled worker on the works or in distribution could in many cases be given more adequate training with advantage to himself and to the industry. The practice of the past, where the new entrant picked up the job from the old hand, never led to improved efficiency and often produced a lower standard, for the experienced man frequently kept the little bit extra to himself. Plant and processes are daily becoming more sensitive and complex, and intelligent operation by adequately trained men is essential to the achievement of the best results. Training of new operatives should be carried out by men with an intimate knowledge, not only of the task, but also of training methods. Training, however, costs money, and training schemes can only justify their introduction where the improved results yield a profit which shows a surplus when set against the cost of training. I have recently been considering the application in the gas industry of the "Training Within Industry" scheme sponsored by the Ministry of Labour. The system, which has many merits, appears to have greatest advantage in repetitive work carried out where there is a large turnover of labour. Nevertheless, there are many functions in process control, distribution work, and office tasks to which the "T.W.I." method can be applied and we are now in the early stage of its introduction in Edinburgh.

Conclusion

I have mentioned in the course of my address some of the opportunities and a few of the problems presented in the scientific, engineering, and commercial fields to individual undertakings, and to a unified industry at the present time. No revolutionary change in present organization and planning is visualized under nationalization, but rather the evolution of a long term plan of development on a sound economic basis towards the achievement of which all will contribute as materials, labour, and skilled and qualified personnel become available.

Our regional and national organizations have achieved remarkable results on a voluntary basis and it would appear desirable—and, in fact, essential—that their records and accumulated experience should be available in some new form to ensure continuity of endeavour and of policy. Further, the platforms provided by these associations have from time to time enabled the public to obtain a knowledge of our activities and to learn of the important part played by the industry in the economic life of the nation, and in particular of the highly efficient manner in which our raw material, coal, is processed.

As gas engineers, our primary responsibility remains unchanged; we have to provide town gas in proper quantity and quality at minimum cost. The new constitution presents us with the opportunity for progress towards a common policy directed to that end. Given the continued loyalty, goodwill, toleration, enthusiasm and effort of all, I believe that we can achieve our purpose with lasting benefit to those we serve and to the economic welfare of the country.

APPENDIX

Output Characteristics

In their Presidential Addresses to the North British Association, my predecessors, Mr. Gracie and Mr. Jamieson, included a series of charts showing the progress of the undertaking, and the hourly, weekly, and monthly records of gas output, and I have brought these up to date. The charts reveal much of interest and well repay detailed study. They record how the undertaking has developed and point to problems which have had to be overcome.

Chart No. 2 covers the 60 years of local authority control and shows the output of gas, the tonnage of coal utilized, and its price together with the average price of gas. The chart brings out clearly the steady rise in output of gas through development between the two wars and the acceleration since 1941. The present rate of increase shows no sign of diminishing, and is quite likely in the current year to bring the output well over the 6,000 mill. mark. The movement in the price of coal since 1939 exhibits the same characteristics as occurred during the 1914-1918 war, after which the price did not fall for five years. The average price of gas for last year shows the moderate increase of 47% above the pre-war level and, as I point out elsewhere, this has been achieved by the spread over of the increased costs through increased output, and its maintenance at this figure depends to a large extent on the price of coal, the revenue from coke and by-products, and the effect of increased capital charges for new plant.

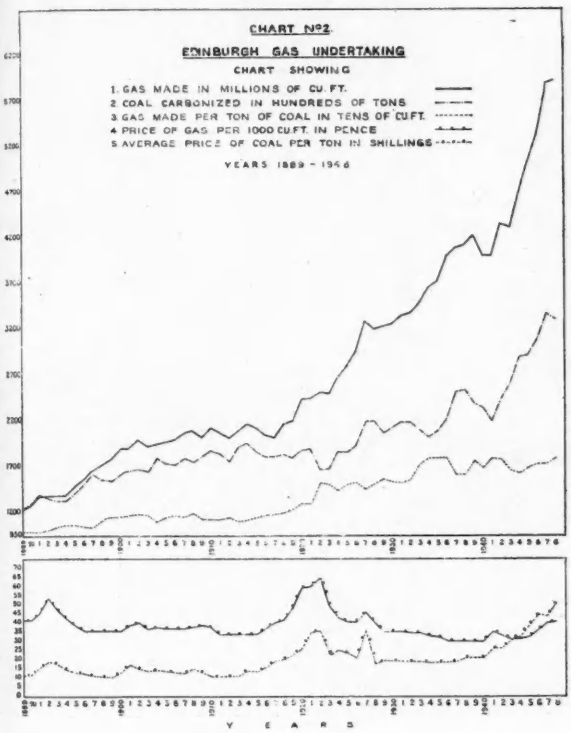
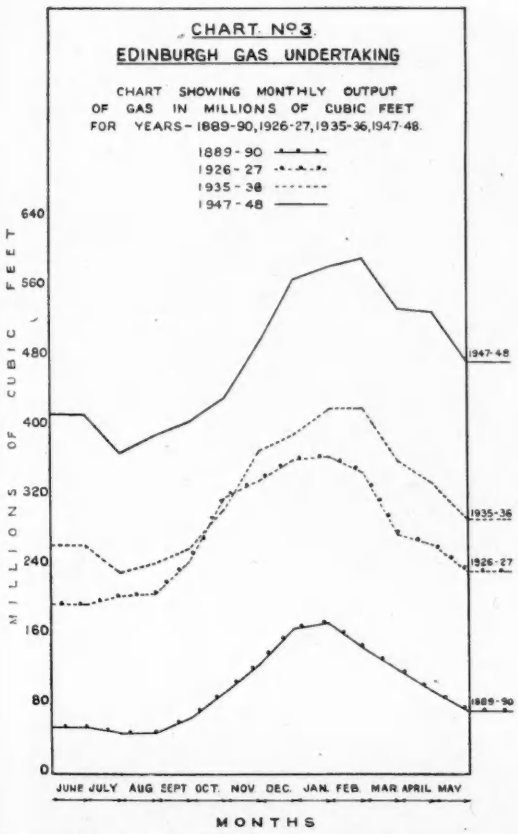
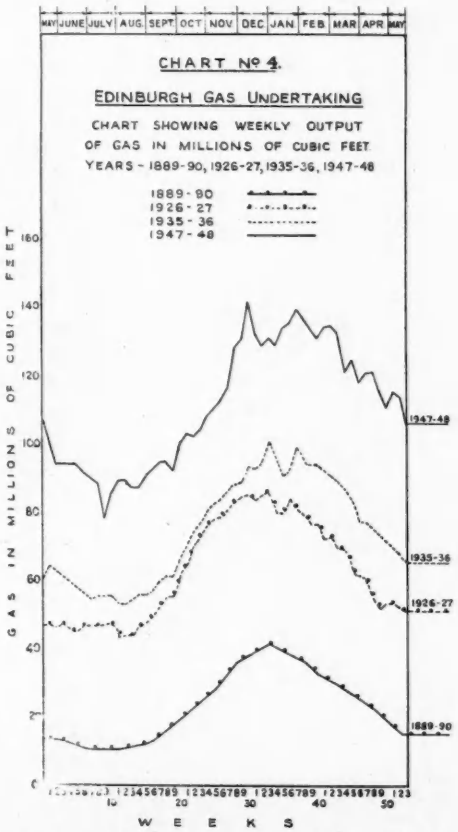


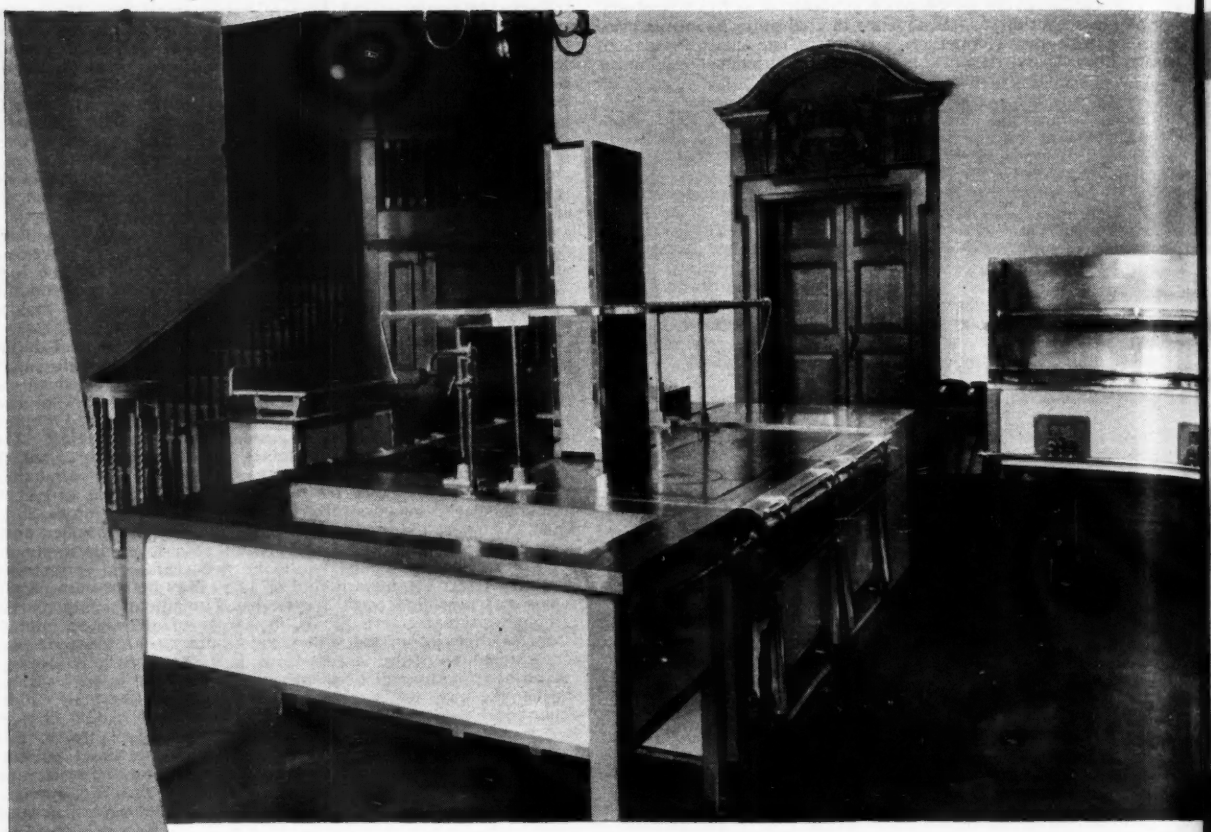
CHART Nº2.
EDINBURGH GAS UNDERTAKING
CHART SHOWING
1. GAS MADE IN MILLIONS OF CU. FT.
2 COAL CARBONIZED IN HUNDREDS OF TONS
3 GAS MADE PER TON OF COAL IN TENS OF CU.FT.
4 PRICE OF GAS PER 1000 CU.FT. IN PENCE
5 AVERAGE PRICE OF COAL PER TON IN SHILLINGS
YEARS 1889 - 1946
Y E A R S

Charts Nos. 3 and 4 show the monthly and weekly output for the years to May, 1890, 1927, 1936, and 1948. The improvement in load factor is apparent and, whereas 20 years ago the load during the winter months was double that of the summer months, the load now is only about one-and-a-half times, thus making for more economical operation.

It will be seen from these charts that the maximum load during the six summer months from May to October is 114 mill. cu. ft. This figure determines the amount of carbonizing plant which can be let down for resetting or extensive repair since work of that magnitude cannot be completed (in units of the size at Granton) in less than six months from gas-making to gas-making. The peak weekly winter load determines the amount of gas-making plant required, and amounts to 142 mill. cu. ft. The permissible proportion of plant down for repairs, excluding the use of special techniques of production for peak load gas, is therefore 20%. Thus, even were the works composed of ideally dimensioned units each producing one-fifth of the present peak load, the minimum cycle of refractory repairs would be five years, and refractories would be under fire for a period of 1,650 days before even partial repair was possible. Such a cycle has a minimum safety margin although normal retort life is in excess of the figure quoted. From examination of the winter and summer peak loads we pass to consideration of the average loads during these periods. Having established the amount of plant which is required to be available during the two half-yearly periods, it is clear that most economical working with minimum incidence of capital charges will be attained when the respective amounts of plant are fully employed continuously during the summer and winter periods. This is an ideal which cannot be fully attained since its realization would entail a sharp change from summer to winter load conditions. What is desirable, however, is the avoidance of isolated







Radiation
(LARGE COOKING EQUIPMENT) Ltd.

PALATINE WORKS WARRINGTON LANCS.

Architects,

Engineers, Catering

Executives and all others who are or may be concerned with the installation of Large Cooking Equipment are cordially invited to inspect the comprehensive selection which is displayed at the Radiation Showrooms.

8 STRATFORD PLACE, LONDON W.I. Tel: MAYfair 6462

peaks in the winter period requiring additional plant which may stand under fire for several months due to our inability to foresee when fog, frost, and snow may create a brief but sharp rise in demand. As will be seen from the chart, such a condition did not arise in Edinburgh during the winter 1947-48, but though this affords some reassurance the mild winter without any extreme climatic conditions may be the cause, rather than the nature of the potential load.

Charts Nos. 6 and 7 show the output hour by hour for typical summer and winter days in 1927, 1935, and 1947. The breakfast, dinner, tea and supper loads show up distinctly in both charts, supper-time being later in summer than in winter. The maximum hour in the winter of 1947 is one-fourteenth of the daily output and in the summer one-tenth of the daily output as compared with one-fifteenth and one-eleventh 12 years ago.

In terms of output from the works, the Sunday dinner peak, so

CHART No 5.

EDINBURGH GAS UNDERTAKING

CHART SHOWING CONSUMPT FOR EACH HOUR OF THE DAY FOR YEARS- 1910-11, 1926-27, 1935-36, 1947-48

1910-11 1935-36
1926-27 1947-48

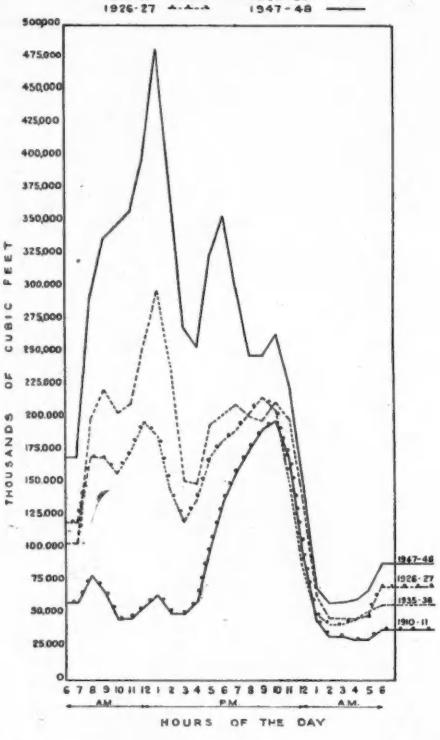
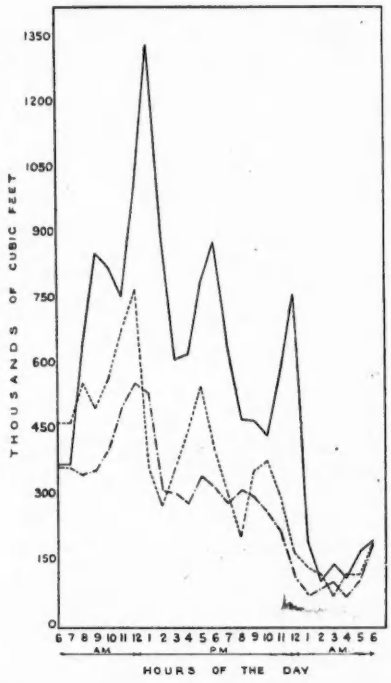


CHART No 6.

EDINBURGH GAS UNDERTAKING

CHART SHOWING HOURLY CONSUMPTS IN THOUSANDS OF CUBIC FEET (SUMMER LOAD)

TUESDAY 24TH JUNE 1947
TUESDAY 18TH JUNE 1935
TUESDAY 21ST JUNE 1927



It is known that other undertakings have not been so happily placed. The high cost of manufacturing and distribution plant to-day to meet these peaks requires that measures be taken to avoid them, or alternatively, to provide low capital cost production plant to meet them. The latter line of approach leads only to amelioration since, if they are superimposed upon existing instantaneous demand peaks, it will still be necessary to bury much capital in the form of distribution plant.

Space heating and, in particular, the gas fire when fitted for heat boosting purposes, is the principal cause of these high, short-lived demands. There would appear to be great merit in the promotion of central heating which is used throughout the winter season as against the gas fire load, particularly when such space heaters are installed to operate in conjunction with district heating schemes, and are used in exceptionally cold spells. The total heat requirement of a central heating installation will rise during these spells, but the load factor throughout the season will be a great improvement upon the on-and-off operation of individual gas fires. I feel, therefore, that there is good reason for offering encouraging tariffs for central heating business—a policy which has recently been criticized adversely—and that attractive terms should also be offered for summer water heating, to keep the winter and summer loads in step. These terms have further justification in raising the average consumption per consumer which will reduce distribution and overhead charges.

On like lines to the preceding argument is the need to avoid a deep trough in the midsummer months, and the extension of summer water heating and refrigeration must be encouraged.

Chart No. 5 shows the cumulative hourly consumption for the years to May, 1911, 1927, 1936, and 1948. The development of the cooking load is clearly indicated and in the 1948 outline the industrial load has filled up the former valley in the forenoon output, whilst the evening cooking load has become more apparent and, together with heating and other demands, has replaced the lighting load of 1911.

common in the South, is not a problem and is, in fact, about 25% less than the peak hour during the week. It is, however, felt to some extent in suburban areas where the incidence of cooking at home at the week-end instead of lunching at work or in town is noticeable.

Gas Consumption in Domestic Premises of Varying Types

A study of the "Survey of Uses of Gas for Domestic and Industrial Purposes" presented by Mr. Stirling Everard at the last Institution Meeting prompted the compilation of statistics of gas consumption in varying types of houses by different classes of consumers. Table 5 gives a brief summary of the results results obtained.

Due to our practice of reading ordinary meters only three times per year, it is not possible to separate the Spring and Summer quarters and, owing to the continuous method of surveying, the quarterly consumptions only approximate to the seasons. In these particular examples the gas fire and water heating load has been poorly developed and the consistency of the quarterly consumption is marked with the exception of Group No. 7.

In Groups Nos. 1, 3, and 6, the difference in consumptions through ordinary meters as compared with consumptions through slot meters is apparent and, contrary to expectations, the slot consumption is substantially higher. In Group 3, the consumption in the three-apartment houses is similar to that of the four-apartment houses, whilst in Group 5 the four-apartment flats use about 10% more than the three-apartment and about 5% less than the five-apartment.

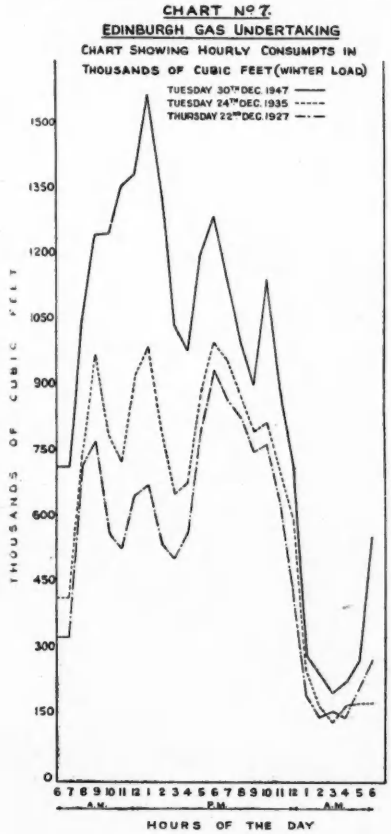
The restriction in possible outlets for increased gas consumption by the centralized supply of hot water and some heating by solid fuel is clearly indicated in Group 8 by comparison with houses in the previous group. Group 9 is a special group of cottage houses provided for single aged persons.

The temporary house group reveals quite a satisfactory consumption, but it is less than the estimate made by the Domestic Development Committee, and it would appear that the refrigerators are not in all-the-year-round use. A canvass of these premises showed an average occupancy of 3.5 persons per house and also revealed that almost every house had one electric iron and one source of present increased outputs. These houses were built to accommodate tenants moved from one of the central city areas to permit of the clearance of old property. When the tenants first took occupancy in 1934, the average consumption per house was only half this figure, and the increase can only be attributed to the greater degree of occupancy. There are now 5.5 persons per

Table No. 5.

Annual Gas Consumptions in Domestic Premises of Varying Types

Group No.	Type of property	Built	No. of consumers	Type of meter	Size of house, apartments	Consumption in therms					Appliances
						Spring	Summer	Autumn	Winter	Annual	
1	Old low class property	1870	90	Ordinary	2		37.4	18.0	18.9	74.3	Cookers or hotplates or boiling rings
			33	Slot	2	30.2	25.7	26.0	30.6	112.5	
2	Local authority rehousing schemes	1933	190	Slot	3.1	41.4	43.2	39.6	45.0	169.2	Cookers only
3	Medium class rented	1934	106	Ordinary	3/4		52.5	24.8	28.0	105.3	Cooker and fire
			82	Slot	3/4	27.0	26.1	33.7	29.3	116.1	
4	Temporary houses	1945	123	Slot	3	35.6	32.4	34.2	34.2	136.4	Cooker, wash boiler and refrigerator. 3.5 persons per house
5	Medium class old property, flats	1878	86	Ordinary	3/4/5		46.8	23.4	24.8	95.0	Cookers or hotplates or rings; a few fires
6	Medium class owner occupier	1936	104	Ordinary	3/4		52.5	24.8	28.0	105.3	Mainly cookers
			24	Slot	3/4	28.8	26.1	29.7	29.7	114.3	
7	Good class residential	1930	33	Ordinary	5.5		73.8	54.9	49.5	178.2	Cookers, some fires and water heaters
8	High class service flats. Central hot water and some central heating	1936	45	Ordinary	5		48.6	30.1	27.5	106.2	Cookers, some refrigerators
9	Cottage homes, single occupant	1932	15	Ordinary	2		20.7	9.9	9.9	40.5	Boiling rings



electric fire installed whilst, despite special endeavours, only one gas poker was fitted in the scheme. In this scheme, the minimum annual consumption was 63 therms and the maximum 336 therms, and even if the statistics are broken down into groups of 10/20 houses, differences of a similar order are revealed, and the average consumption for the smaller group compares favourably with that of the group as a whole.

The substantial consumption of 169 therms per annum in Group 2. where only a cooker per house is installed, indicates one house—together with the full employment policy and availability of cash.

The figures as a whole serve to emphasize the need for greater knowledge of our potential markets under varying circumstances to enable the correct development policy to be determined.

HOUSING DEVELOPMENT AT ORMSKIRK

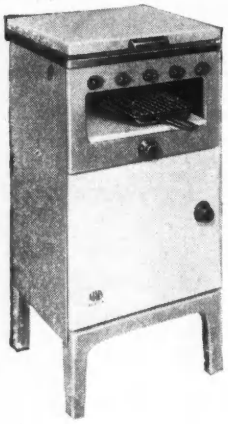
Lord Derby recently officially opened, on the Town Green site, Aughton, Ormskirk, the 550th post-war house completed by the West Lancashire Rural District Council in the Ormskirk District Gas Company's area of supply.

The house, which is fitted with a gas cooker, wash boiler, poker, and additional points for bedroom gas fire and kitchen sink water heater, conforms to the post-war practice of the Leyland-Ormskirk Group of Gas Companies, who have specified the use of B.S.S. copper tubes with "Yorkshire" fittings for all internal servicing work in new domestic premises. Over 750 post war houses have already been completed in this manner.

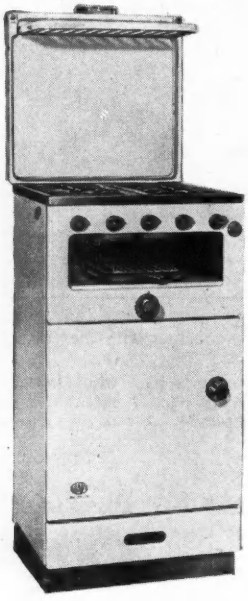
The West Lancashire Rural District Council recently passed a resolution, that 'the Council provide and install gas cookers at council expense for all houses where gas is available, the tenants to have full use of such cookers.'

Radiant Heating, Ltd., had this cleverly laid-out stand at the Hotel and Catering Exhibition held in Manchester.

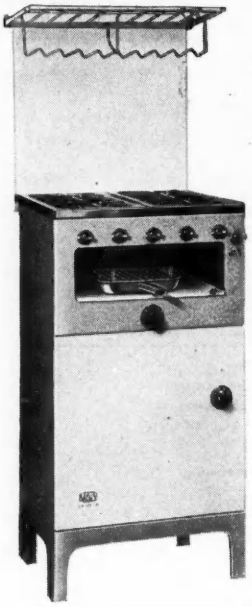
choice is one of the main features



177 with hinged cover closed; 3 boiling burner hotplate; 14″ oven; cast iron legs; dapple/white finish.



177 with hinged cover and shelf; 4 boiling burner hotplate; 16″ oven; plinth base; cream/black finish.



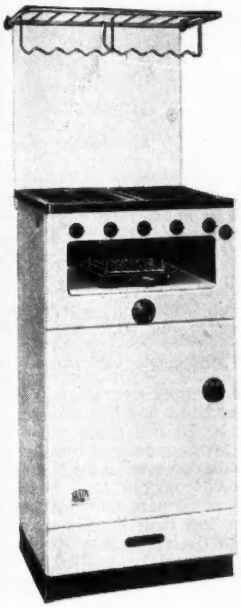
177 with platerack and backplate; 4 boiling burnerhotplate; 16″ oven; cast iron legs; dapple/white finish.

177 with short splash-plate; 3 boiling burner hotplate; 16″ oven; tubular legs; cream finish.

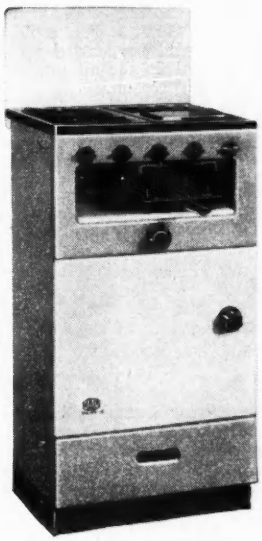
MAIN 177

GAS COOKER

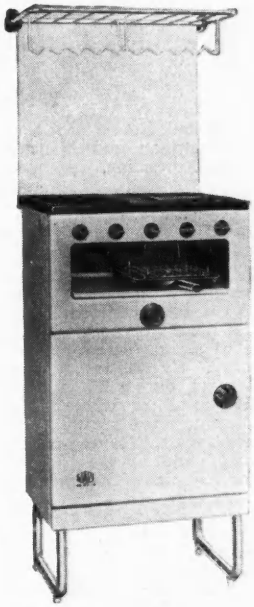
WITH A CHOICE OF INTERCHANGEABLE FEATURES



177 with platerack and backplate; 4 boiling burner hotplate; 16" oven; plinth base; cream/black finish.



177 with short splashplate; 3 boiling burner hotplate; 14" oven; plinth base; dapple/white finish.



177 with platerack and backplate; 3 boiling burner hotplate; 14" oven; tubular legs; cream finish.

177 with short splashplate; 3 boiling burner hotplate; 16" oven; cast iron legs; dapple/white finish.

CHOICE OF 177 FEATURES

Platerack and backplate, or short splashplate.

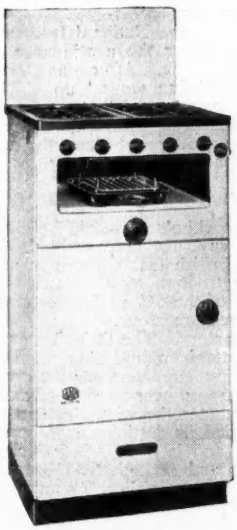
Hinged cover with shelf.

Oven heights: 14" or 16". (Portal, 14" only)

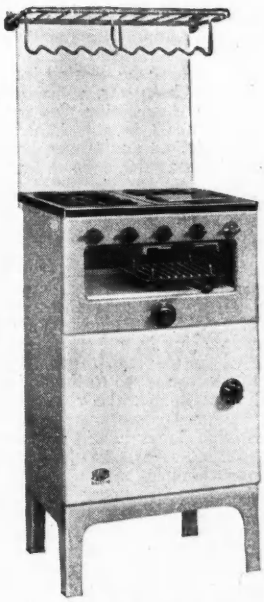
Hotplates with 3 or 4 boiling burners.

Cast iron legs; plinth base or tubular legs.

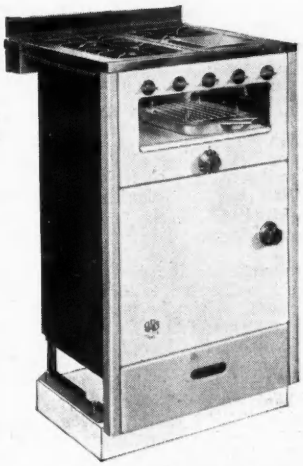
The finishes are: dapple and white, or cream and black.



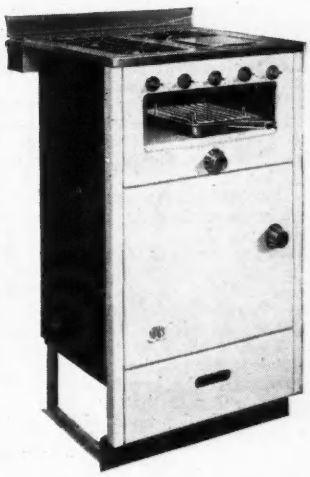
177 with short splashplate; 4 boiling burner hotplate; 14" oven; plinth base; cream/black finish.



177 with platerack and backplate; 3 boiling burner hotplate; 14" oven; cast iron legs; dapple/white finish.



177 Portal type with cream/green finish. (Supplied only with 3 boiling burner hotplate and 14" oven).



177 Build-in type with 14" oven; plinth base; cream/black finish. (Supplied only with 3 boiling burner hotplate).

R. & A. MAIN LTD., LONDON & FALKIRK

COMPANY MEETING

TOTTENHAM AND DISTRICT GAS COMPANY

THE Annual Ordinary General Meeting of the Tottenham and District Gas Company was held on Tuesday, Mar. 22, 1949, at the Company's Chief Office, Woodall House, 658, Lordship Lane, Wood Green, N.22, the Chairman and Managing Director, Mr. E. C. WOODALL, O.B.E., M.A., presiding.

Tribute to the late Mr. Henry Woodall

Before the ordinary business was proceeded with, Colonel H. C. SMITH, O.B.E., D.L., J.P., M.INST.C.E., M.INST. GAS E., Deputy Chairman, said: The report of the Directors mentions the loss which they and the Company have suffered by the death of Mr. Henry Woodall. You would not, I am sure, wish to let this meeting go by with only this brief reference, and with the Chairman's permission I should like to say a few words as a tribute to Mr. Henry Woodall's memory. He was as you know a Director of this Company for 37 years, during 24 of which he was Chairman of the Board. He spent the whole of his working life in the gas industry and contributed greatly to the success of the industry during the past 60 years. He was particularly fond of the Tottenham Company and always took the keenest interest in its affairs and in the activities of its employees and their welfare.

It was my privilege to work with him first as an officer of the Company and later as a colleague for over 28 years, and no one could wish for a more sympathetic employer and friend. His wise advice was always freely available to anyone who cared to ask for it. He was proud of being an engineer and particularly of being a gas engineer, and you will I know be pleased to hear that the gas companies with which he was most closely associated as Chairman or Deputy Chairman have decided to commemorate his services to the industry and his interest in the training of young gas engineers by increasing the endowment of the Corbet Woodall Scholarship and, with the approval of the family, by changing the name of the Scholarship to 'The Corbet and Henry Woodall Scholarship.' I feel it is a great privilege to be able to pay this short tribute to the memory of Mr. Henry Woodall.

The CHAIRMAN thanked Colonel Smith for his gracious tribute to Mr. Henry Woodall.

The Secretary, Mr. R. H. EPPS, A.C.A., read the notice convening the meeting, and the Company's seal was affixed to the register of stockholders.

Review of the Year

The CHAIRMAN, in moving the adoption of the report and accounts, said: Since our last annual general meeting the Gas Bill has become law and, in accordance with the provisions of the Act, your Company will pass into public ownership on May 1 next. This, therefore, is the last occasion on which I shall have the honour of addressing you.

The accounts are not unsatisfactory. There were further heavy increases in our basic costs; coal, oil, salaries and wages were together higher by £445,000 than in 1947. Although the price of gas was raised by 1·5d. on June 26 and 0·3d. on Aug. 14, increased revenue did not fully meet this increased expenditure. You will see, however, that after paying the full statutory dividends, we are adding £883 to the carry forward. This result has been achieved by bringing into account provisions made from profits in previous years which are not now required. Out of £89,226 set aside for War Damage Contribution only £51,279 will be required under the terms of the Bill now before Parliament, leaving £37,947 as a free reserve. A further £110,000 is available from the provision made for income tax since income tax for the fiscal year to April 5, 1949, will be calculated on the profits for the year ended Dec. 31, 1947; ample provision has been retained in the balance sheet for any liability under this head.

During the year, capital expenditure excluding the cost of reconstruction of the Ponders End works, amounted to £117,950. This sum was reduced by sales of assets, originally purchased out of capital, and depreciation to a net figure of £30,763, and our capital, per mill. cu.ft. of gas sold stands at the low figure of £370. Reduction in the amount payable for interest on loan capital is due to the repayment of £374,655 loan capital. This was financed by borrowing from the bank on satisfactory terms.

You will note that we have set aside £23,500 as the nucleus of an equalisation reserve in respect of the repair and maintenance of rental properties. This was considered advisable in view of the fact that the Rent Restriction Act prevents the Company from recovering the increased cost of maintenance and repair from its tenants. The balance sheet shows that your undertaking is thoroughly sound. Current liabilities exceed current assets, but this is solely due to the fact that, in view of the imminence of nationalisation, we have raised no money by public subscription but have had recourse to a bank loan, on advantageous terms, to meet our capital requirements.

Ponders End Works

All our works have been kept at the highest possible state of efficiency and are adequate to supply all the needs of our district. The new works at Ponders End are now in operation. One half of the plant was started up on Jan. 3 and the second half will go to work in the autumn as the demand for gas increases with the winter season.

The works are capable of carbonising 470 tons of coal each day and have a daily gasmaking capacity of 7½ mill. cu.ft. The plant embodies many improvements in gasmaking practice and is spaciously laid out with adequate room for the storage of coal and coke. Every effort has been made, in designing the plant, to give the best working conditions for the men, and the new canteen and welfare building, which will be ready for use within a month or so, sets a high standard in industrial welfare.

During the year, we sold 21,251 cookers, 5,664 coppers and washing machines, 3,700 space heating appliances and 2,566 water heaters. No doubt if the purchase tax were removed, the sales of the last two items would be greatly increased. Our showrooms and depôts are in process of modernisation and improvement to give the best possible service to our consumers.

The Company's Centenary

Last year I reminded you that the Company reached its hundredth birthday in December, 1947, and that we had planned to celebrate the occasion in the spring and early summer. Our celebrations took the form of outings to Margate, one by steamer, seven by train and one by coach; also two trips up the river from Windsor. Altogether, nearly 6,000 people took part including employees and their families, pensioners and their wives and widows and children of those who lost their lives in the war.

From my own experiences and from the very many letters we received, it is clear that these outings were an unqualified success and served to cement the very real feeling of comradeship which exists throughout the Company.

Our Secretary, Mr. Epps, our Personnel Officer, Mr. Woodley, and our Liaison Officer, Mr. Songest, were responsible for the arrangements and I should like to say how grateful we are to them and their many willing helpers for putting in so much time and thought to the planning of these very happy expeditions.

Early last year a proposal for the revision of the Company's pension scheme was put up to the Ministry. In view of the near approach of nationalisation, they were unable to sanction it; although we appreciate the difficulties, it is a matter for regret that we were unable to put the new scheme into force.

As a result of the coming into force of the National Insurance Act in July last year, sufficient support for the continuance of our Welfare Association was not forthcoming. After many years of useful life it is now in process of being wound up. The Ministry of Fuel and Power, has, however, agreed that we should continue to pay the normal funeral benefit to employees and ex-employees who are not eligible for the death grant under the Act. Provision for this liability has been made in the accounts.

Nationalisation

The hopes I voiced last year that stockholders would be given fair compensation have, I regret to say, not been realised. In spite of the very great effort of the British Gas Council in and out of Parliament, stockholders have to look to a reduction in income varying from 31% in the case of the 5% preference stock to 23½% in the case of the 4% debenture stock.

And now we come to the end of the story. The little Company which first lighted the villages of Tottenham and Edmonton in 1847 has grown into a great undertaking, supplying gas for every conceivable domestic and industrial purpose over an area of more than 400 sq. miles. In that growth, under the wise direction of the many eminent men who have guided its destinies in the past, the Company has never looked back and is to-day in first class condition technically, administratively and financially. We may justly feel pride, mingled with our regret, in handing over so efficient an undertaking to the Eastern Gas Board.

Nationalisation is now an accomplished fact, and whatever our personal views may be, it is no use indulging in vain regrets. Rather must we hope that the spirit of service to the community which has grown up under private enterprise and which was so notably demonstrated in two wars and a general strike, will continue to animate the industry in its new form. We have solid ground for our hopes in that a large number of men, steeped in the traditions of the gas industry, are to continue to control its destinies.

I am sure you are all glad to know that Colonel Smith's great ability and outstanding service to this Company and to the industry as a whole have been recognised in his appointment as Deputy Chairman of the Gas Council. I am also very glad to tell you that Mr. Epps has been appointed Secretary to the Eastern

Gas Board and that Mr. Hawkyard is to be Divisional General Manager, and Mr. Kedge, Accountant of the Division in which the Tottenham Company will form the largest unit. We congratulate them all and wish them every success. I am glad to say that, as a part time member of the Eastern Gas Board, I shall still retain what has been to me a very happy connection with the Company in its new guise.

Finally, I want to express our appreciation to you for your long continued support of your Board I would also like, on your behalf, to give our warmest thanks to our employees who have always given loyal and efficient service to the Company and I am sure you will want to give them your good wishes for the future.

Colonel SMITH, in seconding the adoption of the report and accounts, said it had been his pleasure on many occasions to respond on behalf of the employees of the Company to a vote of thanks which had been passed to them for their services. On this occasion he wished to tender his personal thanks to the officers and staff and employees of the Company for the very loyal support which he had always received during the many years that he had served the Company in his various offices. It had been his duty together for some time with his very good friend Mr. Fussell, and later with Mr. Epps, to stand between the employees and the Board of Directors, conveying on the one hand the wishes of the Board to the employees, and on the other hand very often expressing the wishes of the employees to the Board.

They had always been a very happy team in the Tottenham Company, and the success of the Company was in no small measure due to the technical skill of their professional and technical officers and staff and the loyal support they had always received from all the employees. He wished to take the present opportunity of tendering to them all his personal thanks for the very loyal support and help which they had given to him over a long number of years,.

The report and accounts were adopted and final dividends were declared at the rate of 2½% actual on the 5% preference stock (making 5% for the year), 2¾% actual on the 5½% preference stock (making 5½% for the year) and 2½% actual on the ordinary stock (making 5% for the year), all less income tax.

The retiring Directors, Colonel H,. C. Smith and Mr. E. J. K. Fussell, were re-elected, and on the proposition of Mr. E. A. PIERCE, seconded by Mr. W. R. CRUSE, Lieutenant-Colonel W. C. Smith, D.S.O., M.C., F.C.A., was re-appointed Auditor.

Mr. S. L. SANDELL proposed: 'That the best thanks of the stockholders be given to the Chairman, Directors, and Auditors, and also to the officers, staffs, and workmen for their services to the Company during the past year.' This was seconded by Mr. J. BEALE and warmly supported by Mr. W. WRIGHT, a pensioner with over 65 years' association with the Company, and carried with acclamation.

The CHAIRMAN, in acknowledging the vote of thanks, said he had had many opportunities during the year of seeing the Company in its various aspects, and also in holiday mood, and he thought it was perfectly true that they had been a very happy family. He saw no reason why that happy spirit should not continue.

They were inclined to regard the approaching change as disastrous, but while he could not pretend that he regarded the change as a good one he thought they could look forward to carrying on the work they had been doing in the same spirit as in the past. It was a great grief to him that after April 30 there would no longer be a Company, but there would still be the works and offices and the gas industry would continue to render its service to the public. He was sorry that the Government had not seen fit to approve the revision of their pension scheme, but under nationalisation there must obviously be some co-ordination of such schemes and the Ministry had deemed it impracticable to allow them to revise their own particular scheme in the light of such co-ordination.

GAS UNDERTAKINGS' RESULTS

Bath Gas Company

A final dividend of 2½% less tax for the half year ended Dec. 31, 1948, makes a total of 5% less tax, for the year. The balance carried from revenue account to profit and loss account is £32,402 against £33,054 in 1947. The Company's charges for gas remain among the lowest in the country.

Yorktown (Camberley) and District Gas and Electricity Company.

Dividends are to be paid for the half-year to Dec. 31 at standard rates on Preference stocks and at £2 12s. 6d.% actual on the Consolidated Ordinary stock, making £5 5s% for the year. Profit on revenue account for the year was £25,394 (1947: £28,311). Undivided Profit forward £21,288 (1947: £5,848).

Maryborough Gas and Coke Company (Queensland).

Gas sales show a considerable increase over 1947, but expenditure has risen more steeply, attributed to six increases in wages, five in price of coal, and one in freight charges. There has been an improvement in the supply of appliances, but piping is still in very short supply. A final dividend of 5% has been declared, leaving £218 to be carried forward, compared with £330 brought in from the previous year.

Tottenham and District Gas Company

At the annual meeting on Mar. 22 the stockholders approved a final Ordinary dividend of 2½% actual, less tax, making 5% for the year, and final dividends at standard rates on the 5% and 5½% Preference stocks. Having regard to the practice of the Company in former years of providing for income tax on the profits of each year the provisions of the Gas Act, 1948, and the Finance Act, 1946, make it unnecessary for the Company to provide at Dec. 31 for income tax out of the profits of the year. Profit for the year was £72,573 (last year—taxed profit —£38,721). Carry-forward £49,478 (last year £48,595).

Londonderry Gaslight Company.

Final dividends have been paid for the year ending Dec. 31, 1948, of 5% on the Old shares and 3½% on the New, all less tax. The balance carried forward to the profit and loss account is £3,325, as against £2,833 for 1947. In his address to the shareholders, the Chairman, Captain B. F. McCorkell, said that gas output had been the highest in the history of the Company. Gross profit had increased in step, although somewhat offset by the extra coal carbonised and increased wages. He mentioned the possibility of an offer from the Corporation and a favourable valuation of the works. He congratulated the Managing Director, Engineer and Secretary, Mr. Walmsley, on the condition of the works and said its efficiency was certainly comparable with some of the largest undertakings in England.

Swansea Gas Light Company

Gas sales in 1948 were a record in the history of the Company, in spite of two increases in the price of gas which were made as a result of increased costs of production. Revenue account shows a gross revenue of £349,301, including £251,985 from gas sales, against £229,092 for 1947, and £81,543 from residual products against £64,913. Manufacturing costs were £233,272, against £198,002, distribution £44,738, against £37,713, and management £14,426, against £14,135. A balance of £35,863 is carried to profit and loss account, compared with £41,203 last year. Payment of a dividend of 4½% on Ordinary stock leaves a balance of £2,046 to be carried forward, against £10,416 brought in from 1947. The Directors' report says that as far as difficulties of manpower and materials have permitted the works, plant and mains of the Company have been well maintained. As a result of the development of new housing estates there has been considerable extension of the Company's mains. The Company's claim for war damage under the Public Utilities Scheme has been accepted by the Ministry of Fuel and Power at £49,042.

Ipswich Gas Light Company

There was an increase of over 61 million cu.ft. in the quantity of gas sold in 1948, representing an increase of 4.8% over the previous year. Of a total revenue of £542,646 the balance carried to net revenue account is £41,975, against £41,958 for 1947. Payment of dividend at the rate of 5½% will leave £15,451 to be carried forward against £8,732 brought in.

Eastbourne Gas Company.

The Directors recommend that a further 2½% be paid on the 5% preference stock making a total for 1948 of 5%, a further 2% on the 4% preference and at standard rates on the ordinary stock, all less income tax. The balance carried forward to net revenue account is £32,757 as against £36,942 in 1947; £4,185 less, due to increased cost of wages and all materials. In March the price of gas was increased by 2.2d. per therm, but despite more increases in wages and coal since the price has remained level.

Chester United Gas Company

Gas sales in 1948 totalled 4,010,139 therms and brought in £171,662 against £157,031 for the previous year. The balance carried to profit and loss account is £16,905, compared with £20,186 for the previous year. A final dividend of 3¼% makes a total distribution for the year of 5¼%, leaving a balance of £5,885 to be carried forward. A sum of £2,996 was transferred from reserve account for the benefit of co-partner employees which, together with £850 allocated to the co-partnership fund from the revenue account, permitted a bonus of 6½% on salaries and wages to employees participating. The Directors' report says that good progress has been made with the extension to the vertical retort plant, which it is hoped to have completed and in operation by next winter. Owing to increases in the cost of coal, oil and transport, the price of gas was increased from 11d. to 11.6d. per therm as from the December quarter, 1948.

East Hull Gas Company

Revenue account for 1948 shows a profit on the year's working of £25,399. After providing for interest on debenture stock, income tax computed by reference to the previous year's figures, dividends on Preference and Ordinary stock for the half-year ended June 30, and transfer of £3,500 to vertical retort replacement account, there is a balance of £9,866 in profit and loss account. A final dividend, making 5% for the year, leaves a balance of £5,837 to be carried forward. Sales of gas increased during the year by .72%. Capital expenditure during the year on plant, mains, governors, meters, &c., after deducting sundry credits for depreciation, &c., amounted to £20,678.

TRADE NEWS

Wellington Tube Works, Ltd., announce that the names of their representatives at their London office are: Messrs. J. A. Blackman, G. C. Parkes and A. C. Sorrell.

Lansing Bagnall, Ltd., manufacturers of industrial tractors, trucks and trailers, have moved to a new factory at Basingstoke. The Company reports that the new works are three times the size of the old accommodation and will enable a considerable increase in output.

The Power-Gas Corporation, Ltd., has published a leaflet, *P. G. Carburetted Water-Gas Plant*, which provides a description and illustrations of a smaller plant with a maximum capacity of 750,000 cu.ft. per day which was designed in recent years to meet an increasing demand for equipment embodying the latest proved developments. Features of the plant are its use of the Back Run process, ignition dome chequerless carburetter with opposed oil injection, a boiler jacketed generator, and an automatic mechanical operator.

W. Edwards & Co., Ltd., has issued details in leaflet form of two new pumps for use in industrial, research and technical laboratories. The first, the Speedivac 1SP30, is a single-stage inexpensive model designed for vacuum and compressed air work in the school room and laboratory. Of robust construction, it is suitable for backing diffusion pumps for advanced physics work which requires pressures of the order of 10^{-6} mm. Hg. The second, the Speedivac 2S20, is a universal two-stage laboratory pump capable of producing a vacuum of 0.0001 mm. Hg. Features are compactness and quiet running combined with exceptionally high performance.

A leaflet has been published by Whessoe, Ltd., which illustrates diagramatically the type and sequence of condensation and wet purification plants recently installed by the Company in the London area. The plants comprise primary and secondary coolers, turbo-exhausters, electro-detarrers, naphthalene and ammonia washers, together with all ancillary services, and are associated with batteries of coke ovens and sets of horizontal retorts. Three sequences are shown and provide a comparison of the differing layouts which have been achieved. Views of plant at Beckton, East Greenwich and Rotherhithe are also included. The leaflet is available from the Company at 21, Victoria Street, S.W.1.

Thomas De La Rue and Co., Ltd.—The Directors of Thomas De La Rue and Co., Ltd., have decided on a reorganisation under which all the wholly owned subsidiaries will be absorbed by the parent company. This will enable substantial economies to be made in the administrative and economic fields. Although two of the subsidiaries, De La Rue Insulation, Ltd., and De La Rue Gas Development, Ltd., have incurred losses during the year, the group as a whole, it is stated, will show a profit considerably in excess of that of any previous year.

The 'Ultranomic' Boiler

We have received from Davey Paxman and Co., Ltd., of Colchester, a booklet describing the patented design of the Paxman 'Ultranomic' boiler, for which the following advantages are claimed:

(1) Owing to the hot gas passing through a bank of tubes close to the bottom of the shell, a free and vigorous natural circulation is promoted and sustained throughout the whole body of the water in the boiler, eliminating dead spots and consequent differential expansion of the shell plates.

(2) The addition of a full-sized manhole below the furnace flue gives maximum internal accessibility for inspection and cleaning.

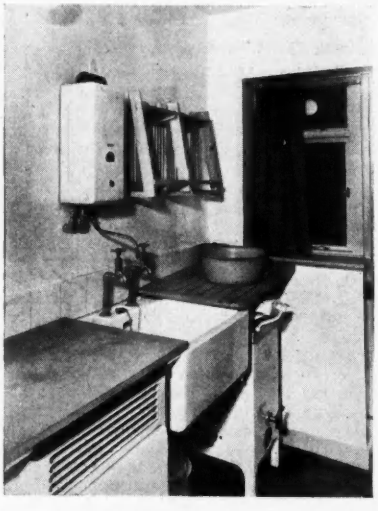
(3) The greater distance between the top of the boiler and the working water level gives a larger water surface for the release of steam and consequently reduces the risk of priming.

(4) The top of the furnace flue, from which a great proportion of the evaporation is obtained, being unobstructed by tubes, enables the steam bubbles generated to pass freely to the surface of the water.

(5) The ample provision made for the accumulation and removal of soot in the combustion chamber and smokebox prevents the choking of the lower rows of tubes.

(6) The relative positions of the flue and tubes is such that a mechanical stoker and its operating gear can be fitted without in any way interfering with the access to the tubes for cleaning.

The booklet in question (Publication 1195) is admirably illustrated and produced and gives a full description of the new boiler.



The Ewart M. 75 Sink Geyser with swivel spout fitted in the kitchen of the Ministry of Health terraced house at the Ideal Home Exhibition

W.G. Plant for South Africa

The Power-Gas Corporation, Ltd., have had connections with African Explosives & Chemical Industries (Pty.), Ltd., for nearly 20 years. They installed the first two water gas units for the South African Company in 1930. An additional unit was added in 1935, and a contract was awarded for a fourth unit in 1947. Before this unit was completed, however, an order was received for another plant of three units, bringing the total projected installations at two of the works of this South African oragnisation to seven units.

This last contract for South Africa brings the grand total of Power-Gas installations of large automatically-operated water gas units, with mechanical ash extraction, in hand or installed by them for industrial use, as distinct from the domestic gas industry, to 118. This type of plant has been installed in Italy, Canada, Japan, China, Russia, Australia, Holland, India, and, of course, South Africa, and the combined capacity of all the units is nearly 17 mill. cu.ft. of gas per hour. This present contract is similar in many respects to the gas-making sections of other current contracts held by the Power-Gas Corporation, Ltd., for fertiliser plant for the Government of India and for the M.E.K.O.G. Organisation, of Holland, and will incorporate several modern developments, including their adaptation of the Lockheed hydraulic equipment for the cyclical operation of gas-making plant.

GAS STOCKS & SHARES

Total business on the London Stock Exchange in the week ended Thursday evening showed a slight increase, 32,741 dealings being recorded against 31,778 for the previous week. This improvement was largely accounted for by increased interest shown on Monday as a result of the good reception given to the North Atlantic Pact. Markings on that day, 8,548, were the best since February 7. Subsequently the approaching end of the account and the nearness of Budget Day, now within a fortnight, restricted trading, and most markets became as unpromising as they were a week ago. Markings on Mar. 23 were the smallest of any Wednesday since Christmas week. In British Funds it was a quiet week, characterised by further selling and lack of buying power. The *Financial Times* Government Security index fell to 113.63, compared with 113.76 on Mar. 17.

Industrial securities attracted more enquiries at the beginning of the week and the general average of prices rose from 111.6 on Mar. 17 to 112.9 on Tuesday. This vigorous recovery seems to be a technical rally, in the main, and no brokers are advising their clients that the major trend in Industrials is upward. Quiet conditions prevailed for the rest of the week and the index fell to 112.4 by Thursday.

Dealings in gas shares totalled 225 for the week, giving a daily average of 45, the largest number of markings being on Mar. 21 when 52 were recorded. The week's price changes in gas stocks were as follows:

OFFICIAL LIST

Bournemouth, std. 5 p.c. sliding scale	160	—165	— 2
Do. 7 p.c. max. div. ...	150	—155	— 1
Colonial Gas Assn. Ltd., ord. ...	14/-	— 16/-	— 2s.
Do. 8 p.c. pref.	22/-	— 25/-	— 1/6d.
Commercial, ord.	90	— 95	— 1
Gas Consolidation, ord. 'B' ...	21/-	— 23/	+ 6d.
Imperial Continental, cap. ...	100	—103	— 2
Primitiva Holdings, Ltd., ord. ...	7/-	— 9/-	— 6d.